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Mac

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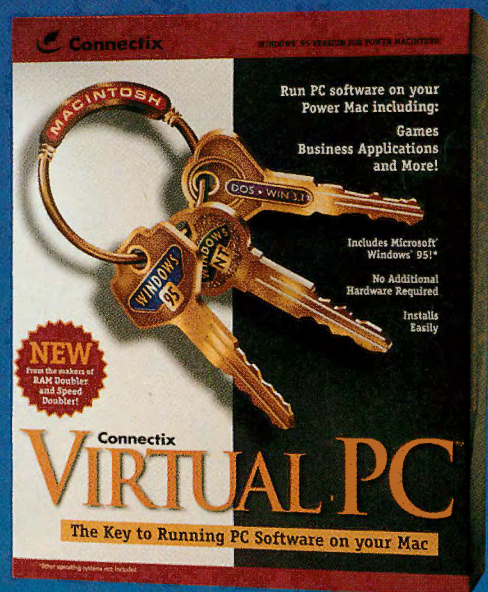
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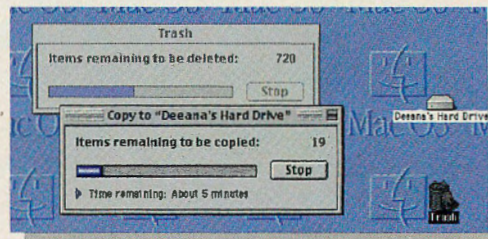
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Mac OS

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Don't you need a thumb to play the keyboard?



Geek rock! Get down with some funky Mac engineers.



This keyboard came prebroken. Learn this and other exciting facts in this month's installment of This Old Mac.

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Hey, Ernie, you're one happy dude. (Read *MacAddict* much? Yup.) Woo-hoo!



Hey, Mama!
How do I get my
legs in when I
want to hide?



Mac ADDICT

EDITORIAL

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Associates, Inc., 720 Post Road, Scarsdale, NY 10583

Volume 2, Issue 10

MacAddict (ISSN 1088-548X) is published monthly by Imagine Publishing, Inc., 150 North Hill Drive, Suite 40, Brisbane, CA 94005, USA. Application to mail at Periodical class postage pending at Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Co. Basic subscription rates: one year (12 issues + 12 CD-ROMs) U.S. \$39.90, Canada \$43.95, U.S. prepaid funds only. Canadian price includes postage and GST (GST 128220688). (PM 0902392) Outside the U.S. and Canada, price is \$53.95, U.S. prepaid funds only. For customer service, write MacAddict, Customer Service, 150 North Hill Drive, Suite 40, Brisbane, CA 94005, or phone 800-866-6889. POSTMASTER: Send address changes to MacAddict, P.O. Box 58251, Boulder, CO 80328-8251. Imagine Publishing also publishes boot, Ultra Game Players, Next Generation, PC Gamer, PSM, and The Net. Entire contents copyright 1997, Imagine Publishing, Inc. All rights reserved. Reproduction in whole or in part is prohibited. Imagine Publishing, Inc. is not affiliated with the companies or products covered in MacAddict. Standard Mail enclosed in versions: A3, A4, B, B2, B3. PRODUCED IN THE UNITED STATES OF AMERICA.

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Cheryl, is your refrigerator running? Where's Mr. Snuffleupagus? Welcome, Gwirtz rhymes with squirt! Hey, Dave, "Pump you up." All hail Clan MacAddict!



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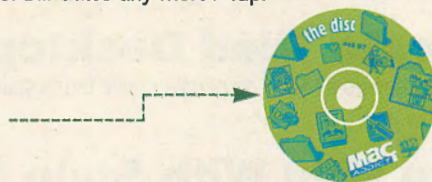
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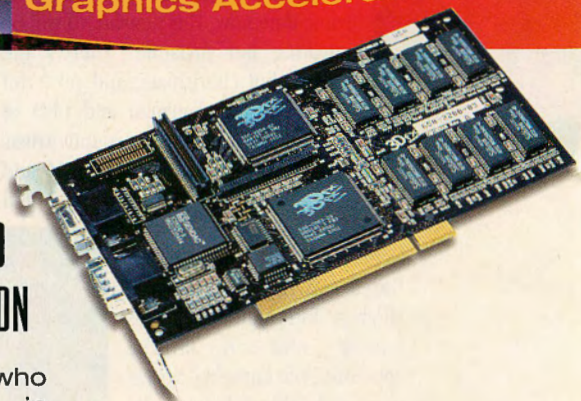
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TECHWORKS



editor's note

Has Steve Jobs lost his mind? Or is he crazy like a fox?

Gil Amelio has been out of Apple for less than a month as I write this in early August, and already Steve Jobs has inked a deal with Microsoft, changed the board of directors, caused a near panic over clone licensing, and engendered both hate and love among Mac addicts. Is the man nuts? Or is this the invigoration that Apple needs?



Certainly some of Jobs' changes are glaringly obvious good moves. Apple's board has been nearly invisible for some time now. This new board will be anything but invisible. There's the strange but charismatic and powerful Larry Ellison, chairman and CEO of Oracle; the tough turnaround artists Jerry York (former CFO of IBM and Chrysler) and Ed Woolard (chairman and former CEO of E. I. du Pont de Nemours); the Asia expert Gareth Chang (president of Hughes International); Jobs himself; and my favorite appointee, Bill Campbell (president and CEO of Intuit). The outgoing, blunt Campbell formerly was the head of Claris and also head of Apple's marketing (back in the days of the "1984" commercial), *plus* he has a wild prankster's sense of humor, a good idea of what the customer (us) wants, and three Macs at home.

Other changes are a muddle at the moment. In early August, rumors were rampant that Apple was going to stop granting licenses to clone vendors. Publicly, Apple made it sound like the company wouldn't kill off the clones but would restructure licensing deals so that Apple could make more money. Privately, Jobs was telling clone vendors that he simply didn't want them to exist, much less thrive, and compete with Apple.

The issue of cloning has always been a tough, controversial one. Jobs may be right to think that clones can only cannibalize—not expand—Apple sales. But we think it would be awfully sad to look back 10 years from

now at the strides a company such as Power Computing has made—and the steps it took that pushed Apple into making better, faster, less expensive products—only to find that the company no longer existed, that Apple pushed it out of the market. This sounds more like a Microsoft move than an Apple one.

And, of course, speaking of Microsoft, there's the biggest conundrum of them all—what the heck was Jobs thinking in cutting a deal with Microsoft? There are five parts to the agreement: 1) Apple and Microsoft both have free access to each other's patents, both those already granted and any that may be granted within the next five years; 2) for the next five years, Microsoft will offer the same number of releases of Mac Office as Office on Windows; 3) Microsoft will invest \$150 million in Apple

Then, Mac Office. The agreement assures Apple that Microsoft will continue to support the Mac OS for the next few years. You don't have to use Office if you don't want to any more than you did before the deal. But Microsoft's guaranteed support of the Mac gives businesses one more reason to retain or invest in Macs.

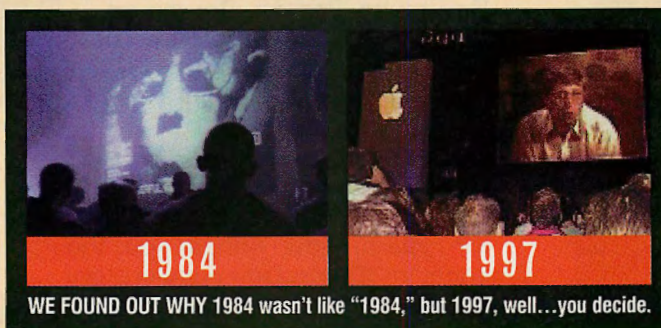
As for the investment, the deal is that Microsoft will buy stock at an average of the stock's price in the week or two preceding the announcement—a time when the stock was hovering around 16. The key thing to note is that Microsoft's shares will be nonvoting shares—they won't have any real voting authority on how the company is run. And because Microsoft can't sell the stock for three years, it has a good incentive to make sure that Apple is healthy.

It's the last two items—making Internet Explorer the default browser and working with Microsoft on Java compatibility—that worry me. On the positive side, Apple is free to ship other browsers on the Mac, and users can easily pick a different one. As for the Java compatibility, by working with Microsoft, Apple can support

both Sun Microsystems' version of Java and Microsoft's. It doesn't have to take a side.

But the problem is that both of these technologies are key to dominance on the Internet. The Web is a huge part of our computer-using lives now, and it's also a tremendous source of content. I hate to see Apple basically hand over the interface to this vast resource—that is, a browser—to Microsoft. As for Java, well, Microsoft considers Java to be an OS—an OS that it wants to control, and Apple now is helping it to do just that. Don't get me wrong. I think it would be a mistake for Apple to try to control Java. It has its hands full with the Mac OS, Rhapsody, and the Mac itself. I just don't like the thought of Apple helping Microsoft with a new "OS."

Is Jobs insane for making these decisions? It's not clear at the moment, but as he said in August, "Sometimes in craziness lies genius." Let's hope Jobs' brand of craziness contains a big streak of genius. —Cheryl England



WE FOUND OUT WHY 1984 wasn't like "1984," but 1997, well...you decide.

stock; 4) Microsoft Internet Explorer will ship as the default browser on Macs; and 5) Microsoft and Apple will collaborate on Java compatibility. Aack! How can Jobs do this? Isn't this the ultimate sellout? Not necessarily.

The first three items on the list are not nearly as bad as they may seem at first glance. For example, the patents. It was a patent dispute that started the whole deal-making. It's not clear exactly what was being disputed or why, but Apple can't afford another costly, time-consuming, distracting lawsuit right now. Something had to be done to prevent this. Still, wouldn't a lawsuit be better than giving away Apple's crown jewels? Well, sure, but the patent sharing does not mean necessarily that Apple is giving away its most precious assets. Patents are not the same as technologies. For example, QuickTime does not fall under the patent agreement. Even if it did, Microsoft wouldn't have rights to the source code.

"Sometimes in craziness lies genius." —Steve Jobs

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letters

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This Month

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BIGGER THAN LIFE

OK, I know I work just a few dozen yards from you guys, and I freelance for you occasionally, but this just has to be dealt with in your Letters section. This has been bothering me since I made my first pilgrimage to Apple's headquarters. There are a bunch of huge metal sculptures of icons on the front lawn of Apple, including Clarus, the pointer, the hand, etc. Here's the problem: The pointer, hand, I-beam, etc. are all **CURSORS**, not **ICONS**. Yet they are the same size as Clarus. They should be one-fourth the size (16 x 16 "giant pixels" versus 32 x 32 "giant pixels" for

Clarus) of the actual icon(s) on the lawn. This just bugs me. I don't know what can or should be done about it (maybe a plaque explaining that the cursors have been pixel-doubled?). Still, it bugs me.

—CHRIS "TRYING TO PROCRASTINATE BECAUSE I'M ON DEADLINE" CHARLA

I think that all of you are supporters of the Barney Movement! And Nikki, you're the center of this evil! Look at you and your DinoKidz keyboard! If that's not a symbol, I don't know what is! Cut it out or else I will report you to the Federal Bureau of Barney Killers! —FRANCIS SAPIENZA

CALIFORNIA DREAMIN' DUDE

One of the most beautiful things about the Mac community is the brothership (and sistership) we all share. We are all a virtual family who find boundless pleasure in each other's Macintosh experience. Our Macs are far more than just computers, they are an integral part of our lives. Deep down, we all want our brothers (and sisters) to have the Mac they want, the Mac that makes them as happy as they could possibly be. My birthday is September 18, and I would really like a new 6500. I understand what a tall order this is, hence I will pay for the shipping.

—JEFFREY T. ULICNY

OF ALL THE NERVE!

I am a little ticked at you people, and I would like an explanation for your lateness with a response. All I ask is just about one ounce of ink in your awesome magazine, and you cannot do that much. Print my letter. Please! I beg of you! Have mercy, please! —ERIC MAYER (AKA THE GUY THAT KEEPS SENDING EMAIL)

THAT'S MORE LIKE IT

Look, I tend to get out of hand, and I apologize for my misbehavior. You have an excellent magazine. Thank you, you insensitive pigs. —ERIC AGAIN

AND A KISS FROM US TO YOU

I think you guys need some major changes to your magazine. First of all, get rid of the whole Macintosh idea and add some upbeat songs. Then fire the staff and throw in a big purple dinosaur and hire some dorky kids to pretend they're havin' fun! WOW!! —REUBEN AYALA

I couldn't help but notice that the purple and green color scheme on your Web site is the exact same color scheme as the costumes for Barney and Baby Bop. I don't think that this was an accident, either!

RECENTLY SIGHTED

Max recently called in sick and what did he decide to do but head down to Apple's Cupertino campus to frolic on the icon lawn. (Oops! Or is that the cursor lawn?). Well, whatever, we caught him in the act. Just see if we give him any time off!



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WARNING! HE'S BACK!

I'm baaaaaacccccckkkkk! In case you're wondering where I've been, well, it's a long story, so break out the Mountain Dew and grab a bag of chips. I was sitting in the park, reading *MacAddict* and daydreaming in color, as all Mac addicts do, when suddenly (insert dramatic music here) I was beset on all sides (I like that word... *beset*... use it in a sentence today...) by a slew (another cool word) of PC Vampire/Zombies (they were in a previous lie...er...story). I was beating them back with my Club of Mac (actually just my rolled up *MacAddict*), when one of the zombies brought out a Win-Doze installation manual and began to read it. I passed out instantly from the sheer boredom.

Wow, look at all those cars passing...oh, sorry...where was I? Oh yeah, when I came

YOU KNOW YOU'RE A MAC ADDICT WHEN...

...your children cry when they see a photo of Bill Gates. —STEPHEN CELIS

...you try to make a script (using AppleScript, of course) to feed your pets. —VASILY KOROSLEV

...as soon as you figure out how to get your PC at work to make a sound at startup, you make sure that the sound is "What a piece of junk!" from *Star Wars*. —JIM CASEY

...your 5-year-old Mac whiz is sitting on Santa's lap and telling him what he wants for Christmas, and Santa looks over at you and says, "Excuse me, sir. What is a Power Mac 8500 with a 604 RISC processor and a two-gig hard drive and 24 megabytes of RAM?" —RYAN BURTON, KANSAS CITY, KS

...you get pulled over on the highway for dragging a PC motherboard behind you while hanging out the window yelling, "Microsucks, Microsucks," and not realizing what you did wrong. —DC OSLER AND JASON CALABRO

...if you take your Mac to the beach to get it a better tan color. —JOHN WILLIS

...you name your dog Moof, and you are pushing the guys at MIT to start some kind of species combination. —MIKE LORSUNG

...your mother goes to the store, and she asks you what kind of juice you want. Instead of saying "apple," you start naming the Performa line. —ANDREW HENDRICKX, WEST BOYLSTON, MA

WHOOOPS!

In the Kidz Stuff review of Harmonic Vision's *Music Ace* (Jul/97, p82), we inaccurately listed the number of games and levels in the program. *Music Ace* contains 24 lessons and 24 musical games with three to six levels of difficulty. A demo of the program can be found at <http://www.harmonicvision.com>.

Claris Emailer (Aug/97, p64) will indeed connect automatically on startup by using the Connect Using: option in the Preferences... dialog box. The problem is that you have to set Connect Using: to a schedule rather than use the Connect Now setting.

to, I was wearing a suit, sitting in a cubicle with flickering fluorescent lights overhead, some geek PC freak was sitting in the cubicle beside me, typing command lines and rebooting like mad, sweating like a pig in the sun (some kind of PC geek aerobics maybe?), and worst of all (more dramatic music,) I WAS CHAINED TO A FRIGGIN' PC!!!!!!!

The geek stopped his futile PC exercise long enough to tell me that I was now a prisoner of all those that attempt to ruin a life of fun. They are the ones who brought easy listening to the world, replaced Godzilla theater on Sunday mornings with those boring political debate shows, and introduced the PC to the world. Their leader was none other than (dramatic music here) Bill Gates. Surprise, surprise.

The geek said that the reason I was here is that some of Bill's spies had noticed that I was having too much fun, and after several failed attempts at shutting me up (good thing I have a strong head), they decided to simply capture me and torture me by having me write command lines for eternity!

As I sat there, listening to him typing and sweating...HEY, YOU'RE GETTING SWEAT ON ME!!!!...with my keyboard clicking out "PCs SUCK" over and over again, I decided I needed to get out of there. I strained at the chains, busting them with my awesome biceps (OK, I really didn't strain; like all Microsucks products, they weren't too well made, and they popped like rubber bands...but I do have awesome biceps...really I do...don't laugh...) and tore the tie off my neck. (Heroic music here.)

As I ran out of the cubicle, I turned and pulled out a Techno mix CD from my Secret MacAddict Utility Belt (what, you don't have a Secret MacAddict Utility Belt?! Here's how you get one...wait, if I tell you, then it won't be a secret anymore...) and threw it, as the

"WAV blew me away."

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"WAV is the spiffiest word processor to come along in several years. It's elegant and intuitive, and its integrated Internet services are a godsend."

— Mac Addict, March '97

drag and drop capabilities. With WAV, simply grab and place nearly anything you want to

utilize in your documents—period. Java™ Applets, URLs, component parts, Netscape™ plug-ins, e-mail text files, Word™ and WordPerfect® files, HTML files, PICTs, GIFs, JPEGs, graphs, sound files and QuickTime™ movies all become integrated parts of WAV documents—not just links to system-consuming, traditional applications.

Imagine utilizing net data instead of just browsing it by dragging websites, information and netfiles across your screen and dropping them directly into your documents. With WAV, the Internet

is built in, and truly becomes your own personal document resource. **Imagine the flexibility of embedding cyber-buttons with direct links to netsites**—or if you prefer, **embedding the sites themselves as living parts of your documents. Imagine virtually no learning curve** and great compatibility with all your old stuff.



MacWorld Expo '97 - Apple's Component Theatre helps Macintosh users from around the world experience the simplicity and power of WAV.

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Folder Bay - Simple-to-use, easily accessible text controls are located here. You can also add your own project folders!

Cyber Button - Create single-click hot links from within your document to any Web, network, or other file location. Instantly launch local applications, sound or movie files, images and more.

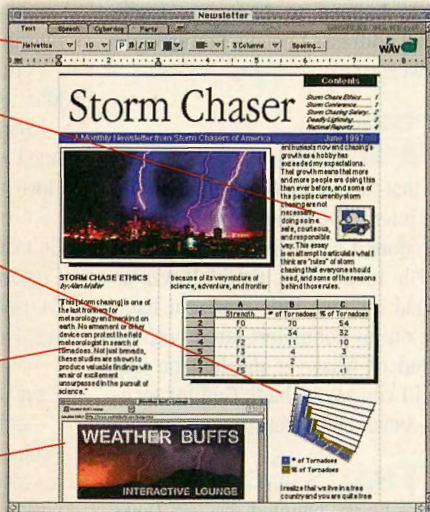
Embedded Part - WAV Documents are living documents* where components can interact with each other—as well as with WAV. In this case, "Numbers & Charts" (component parts from Adrenaline Software®) display data in an active-3D graph linked to a spreadsheet. As data is edited, the graph automatically updates.

Dynamic Text Wrap - When you drag a part into your document, you'll see how existing text wraps around the part as you move it—all in real time!

Embedded Web Page - Never before has a world-class word processor come with built-in Internet navigation, browsing, viewing and retrieval tools as a part of its control panel. When you open documents, WAV automatically opens live home pages or other embedded sites.

Other straightforward editing features include full tabs, colored text, search and replace, AppleGuide help, text to speech, word count, justification control, and full line-spacing. Most people only use about 3% of the text-editing features found in their traditional word processors. Now, you no longer need to lug around all that stuff! With component technology and WAV, if you need extra text-handling features, simply plug them in later.

*WAV installs complete with OpenDoc, Cyberdog (Net Browser, E-mail, Net Search, CyberButton, Net Management), C100™ Components LEXI & C-TextBox, and Apple Live Objects Essentials (QuickTime™ Viewer, Image Viewer, 3DMF Viewer, Apple Draw, Apple Audio).



Freakin' Awesome rating, Mac Addict Magazine, March '97



1997 Editor's Choice and 5-star technology rating.



MacWorld Boston '96



WAV incorporates the power of other Component 100™ Member companies including Cyberdog, Softline, and Corda. For more information on other component parts, visit the Component 100™ webpage at www.c100.org. Digital Harbor, L.C. All other trademarks or tradenames are the protected property of their respective owners. System Requirements: Macintosh/Power Macintosh, component application size: 1.6 MB, suggested memory: 8 MB (virtual memory on); 16 MB (virtual memory off) MacOS version 7.5.1 or later, OpenDoc 1.0.4 or later. Digital Harbor, L.C., 167 S. Oregon Blvd., Salem, UT 84058, www.dharbor.com, (801) 224-5184, fax (801) 224-5183. ©1997 Digital Harbor, L.C. All rights reserved.

letters

wise ancient Mac Monks had taught me.

So, after battling my way out of the House of Horrors, and hitchhiking my way back to Los Angeles with truck drivers (who would've thought country music could get catchy after 200 miles?), I arrive home to find that I have missed two issues and a scathing review of my letters by one Tessa Caine...say, Tessa, you wouldn't happen to have a friend named Bill, would you?

So, there you have the condensed version, because I'm tired, and I need to go eat. LONG LIVE APPLE! LONG LIVE THE MAC!

(Looney Tunes music here.) —REUBEN E. REYNOSO

BA-DUM-BUM

What do you get when you mix Lee Iacocca with Dracula? Autoexec.bat. —TRISTAN TOM, LOS ANGELES, CA

THANKS! I GUESS...

I was going through my August issue and came across the Editor's Note and saw a picture of Cheryl. I've always thought she was cute, but this time there was something about her that made her appear more attractive...then it hit me: NICE POWERBOOK. —CHIP MIDDLETON, LARGO, FL

You know when you get a new magazine and a subscription form falls out, and you read a bit, and you find a subscription form, and you turn the page, and there's a subscription form, and you're reading something cool but have to move the subscription form out of the way.... THANK YOU, *MacAddict*, for exercising a little self control. —ROBERT MUNN, DELTA, BRITISH COLUMBIA, CANADA

HE DOES NOW

Dear Mark,

Don't you have anything better to do than make faces into the Mac Web cam? —STEPHEN CELIS, SAN DIEGO, CA

WILL YOU MAKE OUR LUNCHES, TOO?

Hi, guys. I just watched the streamed video for a few seconds and saw people who seemed to be eating something and a guy either tie his shoe or have a heart attack—I couldn't tell which. Maybe you should stick a sign up somewhere within camera range that says, "We're all OK," and have "Call 911" on its reverse, just in case. This is the first Web

cam I've looked at, but it makes me feel a little responsible for you all. Sit up straighter, and have the guy in the orange T-shirt get a haircut. —PHILIP WILSON

UH HUH

I would just like to tell you that if I live to be 80 years old, I will have 813 issues of *MacAddict* to wait for in the mail. —DAVID KLUDT, GERMANTOWN, WI

BUMMER

When I first read about that little QuickCam that was set up at *MacAddict*, I thought, "Wow! Now I can see 'em in action!" So I immediately went to The Disc and ran the little Java applet, and there you guys were! "This is great," I thought! And when I finally got control (after about 2.5 hours), I attempted to send a short Morse code message (by shaking the QuickCam back and forth) that went something like this: "Help! Help! I'm a bug trapped in your hard drive!" It took me about half an hour to put out, yet no one noticed.... I guess you were all too busy (for example, sitting around drinking coffee) to look over. I wasted a whole afternoon on it, too. Sigh.... —THE MONKEY BOY, WINDSOR, CT

Oh, do you happen to know my Uncle Steve's email address? I need a PowerBook. —TANNER WOZNIAK

JUST SING... SING A SONG

You know that little smiley-face dude in the incredible interactive game Jared? Well, in a fit of boredom, I chose the Sing command from the File menu three times! It was as though I had my own little mariachi band right there on my computer! Jared began a lovely round of whatever the hell he was singing. All I can say is thank God for technology! —ANDREW PUTSCHOEGL

NOW THAT'S SCARY

Help! I am being haunted by Ziff-Davis Publishing. They will not stop sending me this darn *Computer Shopper*. It is 500 pages thick, and they send it every month! I have called and called, they will not stop sending it! I figure you superheroes of Macdom at *MacAddict* may be able to help me cease the arrival of this Wintel smut to my house! —ANDREW PERSOFF, EAST NORTHPORT, NY

Lucky You

Only one comment: Internet Explorer sucks. Stop endorsing it. I've tried every release and find it to consistently lock up more frequently and download graphics slower than Netscape Navigator. I tossed the last one after three sessions. Two weeks later they sent me a T-shirt! Guess what? It didn't fit! —STEPHEN M. SMEATON, PROVIDENCE, RI

I LOVE MACS

Spoof of Oscar the Grouch's "I Love Trash," by Jeff Moss

Oh I love Macs
Even the PowerBook and little Newton
All user-friendly the moment you begin
Yes, I love Macs

Better quality JPEGs from my scanner
Instead of one big color B-M-P blur
Print from Photoshop to your StyleWriter
I love it because it's Mac!

Oh I love Macs
Even the PowerBook and little Newton
All user-friendly the moment you begin
Yes, I love Macs

Buying software—if it's for the Mac
I'm sold!
Macs are best say ten out of ten
people polled
And I wouldn't trade it for a big pot of gold
I love it because it's Mac!

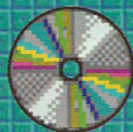
Oh I love Macs
Even the PowerBook and little Newton
All user-friendly the moment you begin
Yes, I love Macs

Steve Jobs is my hero,
while Bill Gates a mere louse
Replace all PCs with Macs in every
office and house
Loving to click with that single-
button mouse
I love them because they're Macs!

Oh I love Macs
Even the PowerBook and little Newton
All user-friendly the moment you begin
Yes, I love, I love, I love Macs!!!!

—KRISTEN MARGARET

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Onita Mihaly



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Vacation Video
Work Stuff
My New Song



The new Philips **CD-ReWritable Drive** lets you save your world. Store your data, sound, videos, pictures, drawings, files. You name it — and you can save it on a 650 MB Compact Disc. Plus the disc that you create can work on CD-ROM or DVD-ROM drives. The Philips CD-ReWritable Drive is affordable too. Now send CDs of things that matter to you to people who matter to you. For more information: <http://www.philips.com>



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PHILIPS

Let's make things better.



the disc

So many great programs we had to use duct tape to keep the bits from busting out.

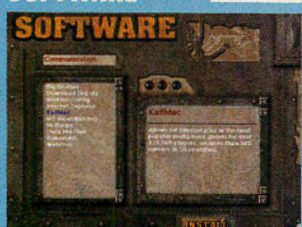
the disc

HIGHLIGHTS



Click this button for all the best shareware programs (see page 28) and for a QuickTime VR movie of the MonkeyBoys' living room (see page 50).

SOFTWARE



Get descriptions of the fine software products on The Disc, then install them!



DEMOS



Launch demos of Myth, Let's Pretend: The Past Is Our Playground, Knight's Chase, and PhotoVista.

INDEX



Click here for a handy jumping point to all the screens on The Disc, including the contest.

CONFIG



The Config button on the main screen brings up this handy

dialog box. Use it to change the music track, adjust the volume (or mute it), select your browser for Web links, and see credits for the music tracks.

This month marks the debut of the mysterious JG, whose initials you'll see throughout these marvelous Disc Pages. Jennifer Gwartz is our new associate online editor and already has earned her keep. Read on for the best in Mac shareware. —Kathy Tafel



GETTING STARTED

1. Pop The Disc into your CD-ROM drive.
2. Double-click the MacAddict Tour Icon for PowerPC or 68K Macintosh.
3. Have fun!

REQUIREMENTS

Any Mac can access the shareware, demos, and System software from the Finder. Accessing the full CD-ROM interface requires 12MB of real RAM with System 7.1 or earlier, or 16MB of real RAM with System 7.5 or later.



OUR DISC SPONSORS

To find immediate information from our sponsors, go to the Index (Option-click any help screen). You also can access sponsor information from the main window in the Finder.

AOL



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America Online offers access to the world of online news and information, interactive magazines, finance, entertainment, email, free software, shopping, and more. With a point and a click, you can explore the vast resources of the Internet. Sign on and receive 15 free hours.

Bungie—Myth



800-295-0060
<http://www.bungie.com>

Myth is a tactical-level game of epic battle set in a fantasy world. A multimetric game, Myth gives gamers unprecedented freedom to view the terrain and their forces, orbiting around their heads or zooming in for a close-up. Mastery of formations and disciplined movement of armies is critical to success. Myth features cross-platform networking, while Bungie's MetaServer system makes Internet play simple. Myth includes maps designed for networking and alternate networking scenarios such as Assassin and King of the Hill.

Digital Frontiers —HVS 2.0 Series



800-328-7789
<http://www.digfrontiers.com>
Award-winning HVS (Human Visual Systems) ColorGIF 2.0 and HVS JPEG 2.0 give Web developers stunning 24-bit-quality images at 8 bits or less. Web graphics now download 50 to 70 percent faster with no loss in image quality from a 24-bit original. Try full-featured demos free for three days before purchasing.

Earthlink—TotalAccess



800-395-8425
<http://www.earthlink.net>
TotalAccess is Earthlink's complete software and Internet connection package. It includes Netscape Navigator, award-winning Internet access software, and everything needed to

register for complete Internet access in less than five minutes. After the \$25 setup fee, unlimited access is provided for \$19.95 per month. Round-the-clock tech support is provided via an 800 number.

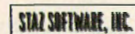
MacSoft—Duke Nukem 3D



800-229-2714
<http://www.wizworks.com/macsoft>

This is the game that shattered perceptions of realistic 3D environments and interactive gameplay, and it's the first to have a meaningful story progression, cool cut scenes, and an action hero like no other game has ever seen.

STAZ Software —Classroom Publisher



800-348-2623
<http://www.stazsoftware.com>
Classroom Publisher is a desktop publishing program designed with schools, teachers, and students in mind. It allows anyone to quickly and easily create calendars, clip art, greeting cards, and all kinds of reports, banners, and stationery without even picking up a manual! It was written in the world's fastest Basic compiler FutureBASIC, also sold by STAZ Software. See the Our Sponsors section on The Disc for more information.

Technworks —Power3D and PowerCPU



800-688-7466 (and ask for Game Guy)
<http://www.technworks.com>
Upgrade your PowerPC to a Power Arcade! The Power3D card is dedicated to bringing you the best performance available for Mac OS 3D games. Most 3D computer graphics solutions try to be all things to all people. No compromises here. Power3D was designed for one thing only, and that is great games! This is truly the most awesome gaming card available on the Mac! The Power3D does not replace your 2D graphics, it works with your existing graphics card to provide you the absolute in 3D performance. Install the Power3D in your PowerPC (requires one available PCI slot in your system), and use the provided pass-through cable to turn your PowerPC into a Power Arcade system!

CONTEST

Win!Win!Win!Win!Win!Win!

Experience your own ReBirth!

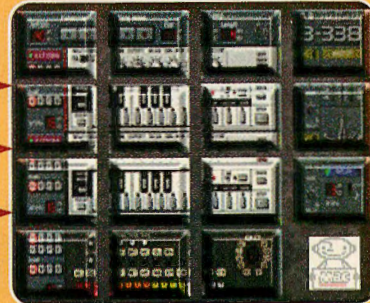
Get to the contest from the Index screen. When you solve the puzzle, the CD-ROM will give you a code. Enter this code on the Web site for your chance to win Steinberg's ReBirth. A necessary addition to any techno maven's software library, you'll be jamming until dawn. (See review on page 61).



Can you turn this...



...into this?



HELP

You Have a Problem?

What! You need help? Well, if your superphat disc is mangled, warped, broken, or otherwise disturbed, you can get a replacement from Imagine Publishing's customer service. We've set up a special Web site where you can order one at

<http://support.imagine-inc.com>. If you can't install anything, or get disk errors, do the same.

If you're having problems with System software, we recommend calling the good folks at 800-SOS-APPL. They'll be more than happy to help you.

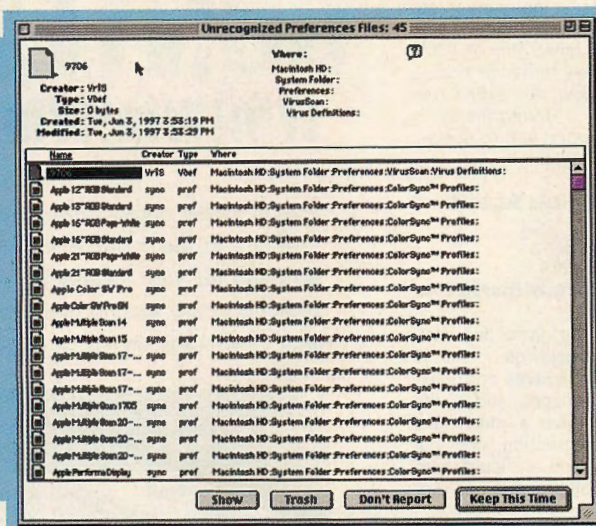
the disc

the disc

FILE MANAGEMENT File Buddy

This versatile application keeps track of your files, and it performs scans, batch processes, and searches. File Buddy makes detailed inventories of your files and also creates custom icons from PICT images. —JG

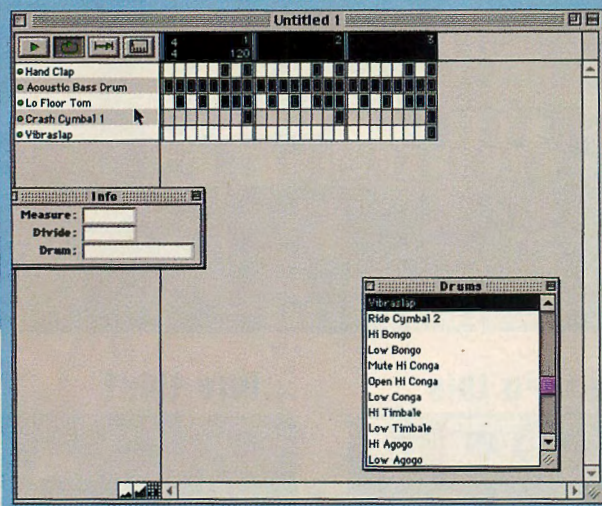
MacAddict14:Software:Disk
& File:File Buddy 4.1.1



WINNER!

Fortune smiled on Mary Hargrove, who won our contest this month. The number, 68851, was the name of the Paged Memory Management Unit (PMMU) that handled memory management in 64K System 6 and 7 software. Once upon a time, the PMMU was the cause of serious software incompatibilities in some older-model Macs. Mary is the proud new owner of a Canvas 5 software package from Deneba Systems. —JG

MUSIC Virtual Drummer



This QuickTime-based drum machine is habit-forming for anyone who likes to make music with their Mac. It's light on the pretty interface but heavy on the functionality. With 40-plus drum sounds to choose from, you can become your own virtual percussion orchestra. —JG

MacAddict14:Software:
Graphic&Sound:Virtual
Drummer 3.0.1



UPDATES

Claris E-mailer Update 2.0v2
Duke Nukem Full 1.0->1.1.1
Mac C&C Update

GAME PREVIEW

Myth: The Fallen Lords

A gory slice-'em-up that takes place in imaginary 3D landscapes where lost appendages and weapons can be picked up off a realistic ground. You can soar above the field, following the path of an arrow or the strategies of your enemies. Check out our extended remix QuickTime movie. —JG

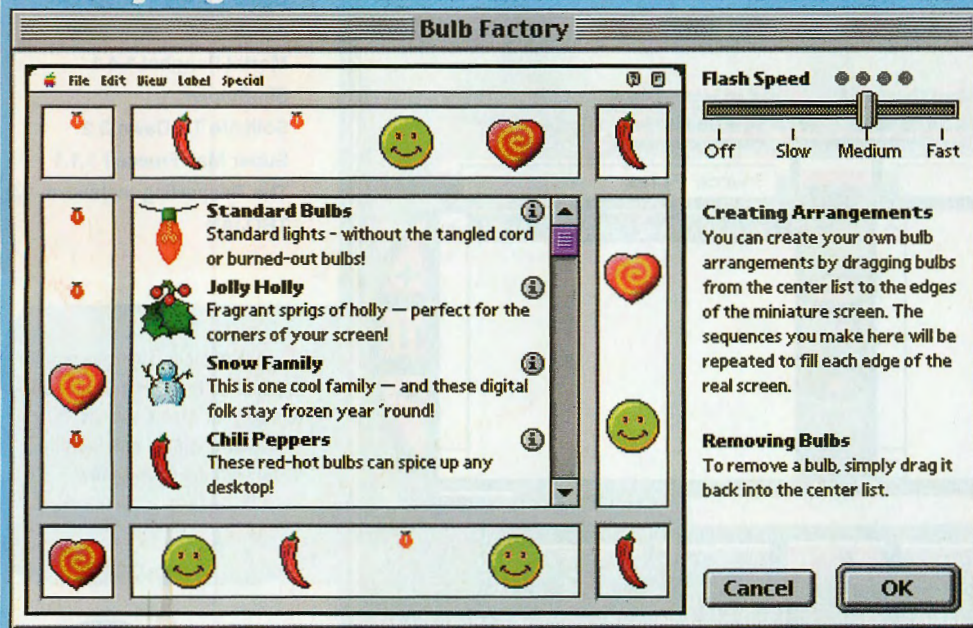
MacAddict14:Software:Commercial
Demos:Myth E3 small.mov



THIS IS ONLY A PREVIEW.
STAY TUNED FOR A
PLAYABLE DEMO SOON!

TOY

Holiday Lights



INTERFACE TWEAKS

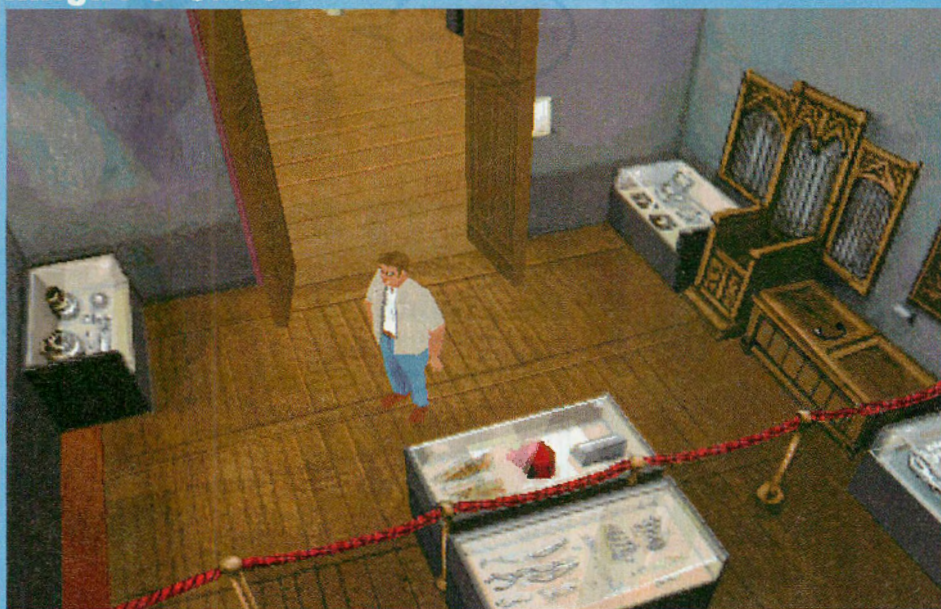
7Tuner 2.0.9
 BeHierarchic 3.1b11
 DoubleScroll 2.1.2
 DragThing 2.0
 Kaleidoscope 1.7.1
 Program Switcher 4.3.1
 ScrapIt Pro 5.33
 Trygve's CMM Plug-Ins 1.0
 Window Monkey 1.1.2

the disc

A useless but fun program for people who have more room in their hard drive than they do in their office space for decorating. A few easy clicks bedecks your screen with blinking lights and ornaments, which you can change with the seasons. Holiday Lights also comes with screen savers and appropriate music, which requires QuickTime to play. —JG
 MacAddict14:Software:Fun & Games: Holiday Lights

GAME DEMO

Knight's Chase



You have a mystery to solve by searching the holdings of a gothic-style art museum. At the bottom of the screen, the main character makes comments about what he sees, hears, and smells. Creepy music adds to the ambience. This game is addictive to art lovers and Agatha Christie fanatics. —JG
 MacAddict14:Software:Commercial Demos:Knight's Chase Demo

SECURITY

Hide Folders

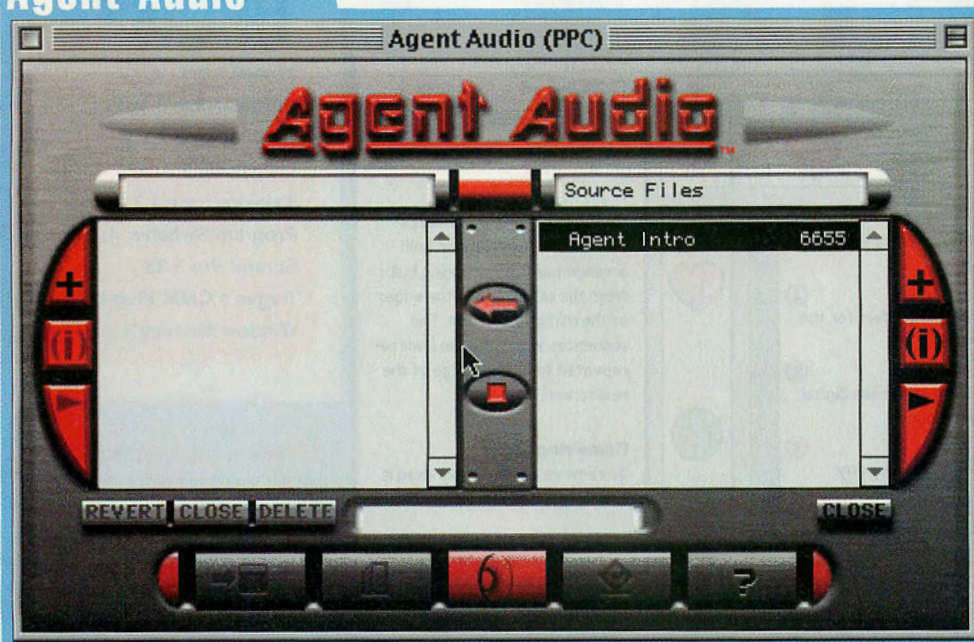


Hide sensitive material from your loved ones by dragging and dropping it over the Hide Folders icon. Just don't forget your password. —JG
 MacAddict14:Software:Disk & File:HideFolders 2.1



the disc

SOUND Agent Audio



MORE GAMES

Battle for the Planets FAT
Jared
Mortal Pongbat 1.4.1
SimStapler
Solitaire Till Dawn 3.2
Super Mac Freecell 1.1.1
The Teleporting Inchworm 1.2
TROJAN

Agent Audio is a gorgeous little application that lets you fully customize your Mac's sounds. Now your morning mail can literally come with the cock's crow. —JG
MacAddict14:Software:Graphic & Sound:Agent Audio 1.0.1

GAME Escape Velocity



The universe of Escape Velocity is deep in civil war. As you float around silent space with your ship full of cargo, you encounter all sorts of adventures as you fuel up, drop off passengers, hire escorts, gamble at bars, and shoot bad guys. —JG

MacAddict14:Software:Fun & Games:Escape Velocity

DON'T LET
THAT BABOON
EAT ME!



CD-ROM DEMO Wild Africa 2



Beautiful shots of large animals and small villages against the savanna skyline. This trip to a faraway continent is a perfect way to travel for the armchair tourist. There's even a little icon that looks like a camera. —JG

MacAddict14:Software:Commercial Demos:Wild Africa™ 2 (Demo)

The #1 Selling PC Game of 1997*
Erupts on the Mac

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Game of the Year

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the web site

SEPTEMBER

By Mark Simmons & Jennifer Gwirtz

MONDAY

1 We celebrate Labor Day in the traditional fashion—by **not working**. Here's hoping your Mac doesn't do the same.

TUESDAY

2 The Great Fire of London began on this day in 1666. Now, we burn down the house with a **hot-hot-hot** Site of the Week.

HOT STUFF!



WEDNESDAY

3 With your online editor out of the office, we'll line up a **special guest star** to run this week's Q&A Wednesday.

THURSDAY

4 Puckish, **parsimonious, pompous**, punchy, but above all, picky. We select our Shareware Pick of the Week.

FRIDAY

5 The veil of time is drawn aside, as we **gaze into the future** and behold a sneak preview of our November issue.

8 *Ars gratia artis*, that's our motto. We honor art for art's sake as we uncloak new fine-art submissions to our Reader Art Gallery.

9 Didn't bring enough for the whole class? Tune into The Practical Mac, as our own David Reynolds shows you how to **share one modem** among multiple Macs.

10 We're here to help, or at least to **fake it**. See if we can ease your pain and anxiety with our Q&A Wednesday.

COOL, MAN!



11 We tried it, we bought it: For this week's Shareware Picks of the Week, we reveal the ones we **liked enough to pay for** out of our own pockets.

12 Like deep-sea fish, we **might explode** if the pressure were reduced. We'll tighten the screws on our staff members by squeezing a new Web Exclusive out of 'em.

15 As Japan celebrates **Respect for the Aged Day**, we'll pay our respects to an old-timer Site of the Week.

16 It's **David Reynolds' birthday**; stop by his Practical Mac site to join in the festivities!

HOLY COW!



17 Check out the **big brain** on our readers! Once again, we'll kick back and let you tackle some tough questions on Q&A Wednesday.

18 We commemorate the 27th anniversary of **Jimi Hendrix's** death with a musical Shareware Pick of the Week.



Jimi Lives!

19 In honor of Mickey Mouse's **1928 debut** in *Steamboat Willie*, we post a reel or two of animation in our Reader Art Gallery.

22 It's our Autumnal Equinox Special Edition Site of the Week! **Get ready for your long day's journey** into long nights.

23 As the magazine-bearing trucks roll along the freeways, we post **complete info** on our November issue. You're welcome.

24 **Contemplating the eternal mysteries** is for suckers. Get actual answers to your nagging questions in our regular Q&A Wednesday.

25 We sorrowfully say *sayonara* to September with a **scintillating** Shareware Pick of the Week.

26 Hey you! Look alive! Shine those shoes! Polish up that drab ol' desktop with new patterns, icons, and doodads from our **Reader Art Gallery!**

29 Four more days until T.G.I.F. But our Site of the Week will get you off to a good start.

30 Five hundred and forty-five years to the day after Johann Gutenberg published the **first book**, we publish our latest Web Exclusive. It's not the Bible, but we do our best.

Those who cannot learn from our Web Calendar are condemned to repeat it.

Thanks to Scope Systems' Today in History page (<http://www.scopeys.com/today>) for obscure references!



"WOMAN WITH A FLOWER" by PAUL GAUGUIN 1891



"BALL AT THE MOULIN DE LA GALETTE" by PIERRE AUGUSTE RENOIR 1876



"LINKS LS MACINTOSH" by ACCESS SOFTWARE INC. 1997

NEW LINKS LS FOR THE MACINTOSH—TRULY A WORK OF ART

Seconds after Links LS Macintosh lights up your screen you may feel compelled to frame it. With up to 16.7 million colors, nothing compares to the detail in every leaf, blade of grass, and skyscape on the newest addition of the world's most award-winning line of golf simulators.

Links LS Macintosh proudly features the Grand Master of Golf, Arnold Palmer. You'll marvel as the legendary Arnie tees off as a movie-quality 30 frame per second animation. Packed with 54 of the most beautiful holes in golf, Links LS Macintosh features the Kapalua Plantation and Kapalua Village courses in Maui, along with Arnie's home course at Latrobe Country Club, near Pittsburgh.

Other features include modem/network play, fog and microtextured grass, more realistic ball-flight dynamics, 3D virtual reality tours and exclusive multimedia footage. For more information call 1.800.800.4880 or visit us at www.AccessSoftware.com. Frame not included. Requires PowerPC



ACCESS
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LinksLS
Macintosh





get info

Cache cows, Technotes, faux shareware, Expo madness, MacAddict Index, and more!

What's the Cache?

Clone vendors cache in their chips to differentiate compatibles

Put on your helmets, kiddos, because we Mac addicts are in for a wild and speedy ride. Apple and the Mac-compatible vendors introduced their fall lineups at Macworld in early August, and they obviously felt the need for speed: Not only have processor speeds doubled from just a year ago, reaching a whopping 350MHz, but those wily engineers have devised more ways to squeeze processing bang out of every hertz.

Fast: Lookaside

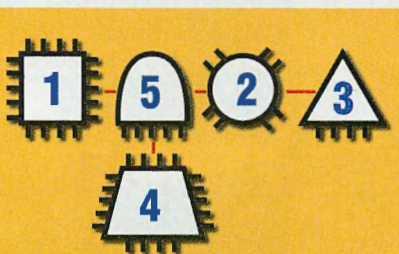
Most Power Macs use *lookaside* Level 2 cache. The processor stores frequently used operations in L2 cache because it's faster than main memory. In general, more cache makes an equivalently clocked Mac faster than one with little or no

cache. The cache card and your main RAM are controlled by the same chip, and that chip is

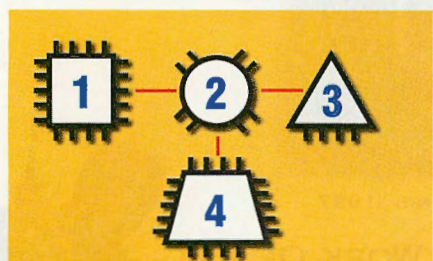
cache in their new machines. An inline cache controller acts as a traffic cop. It sits on the processor card between the CPU and the system bus (see diagram below). As data flows, if it's for anything but cache, it goes over the system bus at the regular speed. But if the data is heading for the cache card, the new controller can send it at twice the system bus speed because it doesn't have to go over the system bus.

KEY:

- 1 CPU
- 2 Memory Controller
- 3 RAM
- 4 Cache
- 5 Inline Cache Controller



LOOKASIDE CACHE: used in most Power Macs

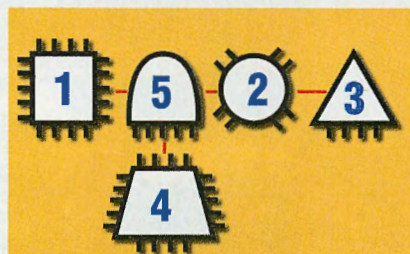


LOOKASIDE CACHE: used in most Power Macs

connected to the CPU via the system bus. The cache speed is limited to the speed of that system bus—40 to 66MHz. With processor speeds topping out at 350 MHz—seven times as fast as the system bus—the full power of the PowerPC chip can't be used.

Faster: Inline

To get around this bus speed limitation, both Apple and UMAX Computer are using *inline*

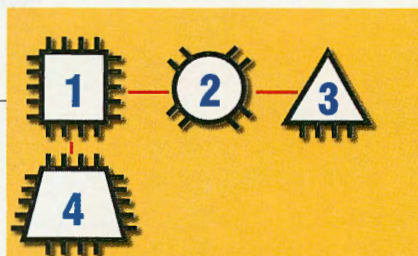


INLINE CACHE CONTROLLER: Apple/UMAX

For the moment, Apple is reserving inline cache for its new Mach 5-based 9600s and 8600s, which use processors running from 250 to 350MHz. The Mach 5 is a 604e chip (second-generation) that uses a G3 (third-generation) manufacturing process to make the processor smaller, cooler, and faster than previous 604e chips. The 8600 and 9600 series will have a system bus of 50MHz, enabling the L2 cache to transfer info at 100MHz. UMAX is using the technology in its lower-end 603e-based C600 line. This CacheDoubler is shipping in the C600x models and enables an 80MHz L2 cache. Inline cache boosts performance about 20 to 25 percent above a Mac using lookaside cache.

Fastest: Backside

Third-generation PowerPC chips—which go by the code-name Arthur and marketing buzzword



BACKSIDE CACHE: Power Computing/Motorola

G3—are called the PowerPC 750, now that they are being used in shipping products. In addition to the G3 manufacturing process mentioned above (making them smaller, cooler, and faster), these new chips have an extra controller built in to handle cache. This controller enables L2 cache to run at the same speed as the processor because it sits on the “back” side of the processor and doesn't even have to think about the system bus speed (see diagram above). The first Arthur-based machines will have processor speeds of 250 and 275MHz, enabling L2 cache to also run at 250 and 275MHz. Both Power Computing and Motorola will release Mac compatibles with backside cache—Power Computing at the end of August and Motorola sometime in September. Motorola also expects to ship a 300MHz PowerPC 750-based machine in October, and Apple plans to ship a 750-based machine this year, too. Cache that's as fast as the CPU will be very expensive, as will the brand-new PowerPC 750 chips. Machines using this architecture may well end up performing better than the faster-clocked Mach 5 machines, but they'll cost an arm, a leg, and a torso. —KT

New (and Upgraded) Look for Fall

Model	Processor/ Hard Disk/RAM	Price Range*
Power Mac 6500/225 home	603e/3GB/32MB	C
Power Mac 6500/250 home	603e/4GB/32MB	C
Power Mac 6500/250 business	603e/4GB/48MB	C
Power Mac 6500/275 home/creative	603e/4GB/32MB	C
Power Mac 6500/300 home	603e/4GB/64MB	C
Power Mac 8600/250	604e/4GB/32MB	D
Power Mac 8600/300	604e/4GB/32MB	D
Power Mac 9600/300	604e/4GB/64MB	E
Power Mac 9600/350	604e/4GB/64MB	E

* A=\$0 to \$999; B=\$1,000 to \$1,999; C=\$2,000 to \$2,999; D=\$3,000 to \$3,999; E=\$4,000+. ** Core means stripped. † Expect Motorola licensees such as APS and PowerTools to offer machines in similar configurations.

Cable Mayhem

The ABCs of "ratnest relocation"

Mystified by the morass behind your Mac? In hooking up a modest multimedia Mac, you might be working with well over 20 cables. Take the *MacAddict* Cable

Guide with you to unravel the mess. Word to the wise: A loose screw can impede data flow. Make sure all your connections are as tight as possible. —John Willis

ADB

AVERAGE LENGTH: 5 feet **TASK:** Data and power transfer for input devices **STREET PRICE:** \$8 **HABITAT:** Keyboards, mice **DETAILS:** Four-pin male-to-male ADB (Apple Desktop Bus) cables connect keyboards, mice, joysticks, trackballs, and trackpads to your Mac.

Serial

AVERAGE LENGTH: 5 to 6 feet **TASK:** Low-volume data transfer **STREET PRICE:** \$8 **HABITAT:** Low-speed peripherals **DETAILS:** These eight-pin Dln-style cables always have male connectors, so if you break a pin it's on the cheap cable, not on the beloved Mac (true for all ports on the Mac, except the power plug).

Monitor

AVERAGE LENGTH: 5 feet **TASK:** Digital video transfer **STREET PRICE:** \$15 to \$20 **HABITAT:** Monitor **DETAILS:** Monitor cables are very similar to SCSI cables. They use a DB15 (15-pin) connection similar to SCSI's DB25 connection. You'll need an HDB15 plug converter if you want to use an SVGA monitor made for the PC world.

SCSI Cable and Terminator

AVERAGE LENGTH: 2 feet **TASK:** High-volume data transfer **STREET PRICE:** Cable \$15, terminator \$5 to \$15 **HABITAT:** Large peripherals **DETAILS:** SCSI (Small Computer Systems Interface) cables are the big boys behind the box. These 1/4- to 1/2-inch thick cables do all the major data shuffling, connecting

your Mac to all the big expensive peripherals you have, such as scanner, removable media drive, or external hard drive. SCSI cables use either DB25 male or Centronics 50 male connectors. Use two-foot cables so stray magnetic fields won't muck with the signals and you don't lose signal strength.

Gender Wars

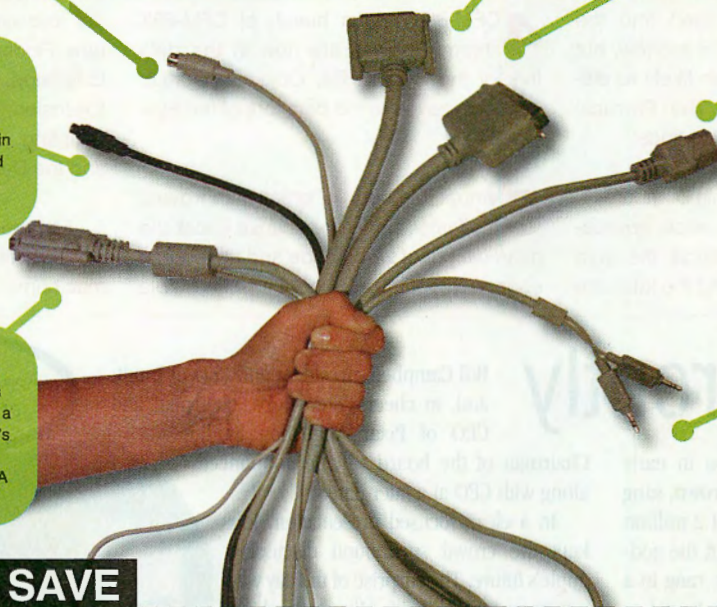
Female? Male? Cables have genders? You betcha. Basically, a socket or an outlet is female, and a plug is male. They are shortened to just F and M for use in catalogs and price guides, just as on surveys.

Universal Power Cord

AVERAGE LENGTH: 4 feet **TASK:** Transferring power to an internal power supply **STREET PRICE:** \$8 **HABITAT:** Wall sockets **DETAILS:** The power cable comes in two flavors: wall socket-to-computer and monitor-to-computer.

Sound Cables

AVERAGE LENGTH: 6 to 8 feet **TASK:** Carrying analog sound signals **STREET PRICE (PLAIN TALK MICROPHONE):** \$20 **HABITAT:** Microphones and speakers **DETAILS:** Macs use three types of cables for getting sound in and out: stereo miniplugs, RCA audio composite plugs, and the modified miniplug on a the sound-in port. Take your PlainTalk mic with you when purchasing other sound-in cables; the plug is slightly longer than normal, so make sure the new cable is the same length.



CLIP 'N' SAVE

UMAX

POWER COMPUTING

MOTOROLA

SuperMac C500LT/200	603e/2GB/16MB	A
SuperMac C600x/240	603e/3GB/32MB	B
SuperMac C600x/280	603e/4GB/32MB	C
SuperMac S910/250	604e/4GB (wide)/64MB	E
PowerCenter Pro 180 core**	604e/2GB/16MB	B
PowerCenter Pro 210	604e/2GB/32MB	C
PowerCenter Pro 240	604e/2GB/32MB	C
PowerTower Pro 250	604e/2GB (narrow)/64MB	D
PowerTower Pro G3 250 core**	750/2GB (narrow)/32MB	D
PowerTower Pro G3 250	750/2GB (wide) or 4GB (narrow)/64MB	E
PowerTower Pro G3 275	750/2GB (wide) or 4GB (narrow)/64MB	E
StarMax 5000/225	603e/2.5GB/32MB	B
StarMax 5000/250	603e/2.5GB/32MB	C
StarMax 5000/275	603e/4.3GB/32MB	C
StarMax 5000/300	603e/4.3GB/32MB	C
StarMax 5500/200	604e/4.3GB/64MB	C
StarMax Pro 6000/233	750/TBA/TBA	D
StarMax Pro 6000/266	750/TBA/TBA	D
StarMax Pro 6000/300	750/TBA/TBA	D-E

Win Lightning Draw/WEB!



We searched Info-Mac for window-munging utilities. Somebody pranked us and put a fake program in the search results. Please tell us which one doesn't belong before we blow up our Macs! Enter on our

Web site, or send your entry via snail mail to Busted Windows, c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005. Write and circle the number you think is right on your envelope. One winner will be randomly chosen from the correct entries to win a copy of Lari Software's LightningDraw/WEB, which makes superspiffy, supersmall graphics for the Web. —K7

1. 3D Windows

2. Church Windows

3. DragAnyWindow

4. Gaspod the Wonder Windows Menu

5. MegaWindow

6. OmegaWindow

7. MaxWindowZoom

8. TechnoWindows

9. Window Monkey

10. WindowMenu

get info

Technote Tidbits

With the release of Mac OS 8 comes, of course, a new Technote covering Mac OS 8. The folks who want to delve deep into the technical trivia of the Mac OS are few, but those who go spelunking are likely to discover fascinating goodies. The Practical Mac offers the following choice finds:

1 When selecting About This Computer... in Mac OS 8's Finder, each application's memory use now reflects the sum of its memory partition size and the total size

of any temporary System memory allocation. Useful to find out which application keeps hogging all that System memory.

2 Mac OS 8 no longer saves Get Info comments for floppy disks.

3 Mac OS 8 now knows the difference between a 603e and a 603ev.

4 CFM-68K and a bunch of CFM-68K shared libraries are now in the data fork of the System file. ObjectSupportLib also has moved to the data fork of the System file.

5 Virtual Memory is greatly improved. It's faster, partially because it lost the dead weight of 24-bit code and the source code was optimized; and it's more stable

because of some bug fixes.

6 Open Transport 1.2 (included in Mac OS 8) now is safe from the Ping of Death, which was a way of attacking servers by sending them oversized packets.

7 Finder extensions are no longer supported, and the abilities provided by the following extensions are found in the new Finder: Network Extension, Clipping Extension, Catalogs Extension, Mailbox Extension, Mail Folders Extension, Finder Scripting Extension, PC Card Extension, and the Desktop Printer Extension.

For more Mac OS 8 information, visit The Practical Mac at <http://www.practicalmac.com>. —DR

Think Differently

To kick off Macworld Expo in Boston in early August, the godfather of soul, James Brown, sang in the arrival of Mac OS 8, which sold 1.2 million copies in just the first two weeks. A day later, the godfather of the personal computer, Steve Jobs, rang in a new Apple, starting at the top. All of Apple's board—with the exception of Ed Woolard, chairman and former CEO of E. I. du Pont de Nemours, and Gareth Chang, president of Hughes International—resigned. Replacing them are Larry Ellison, chairman and CEO of Oracle; Jerry York, former CFO of IBM and Chrysler;

Bill Campbell, president and CEO of Intuit; and, to cheers, Steve Jobs, chairman and CEO of Pixar Animation Studios.

Chairman of the board will be announced along with CEO at a later date.

In a clear, focused presentation, Jobs kept the crowd spellbound discussing Apple's future. The surprise of the day was a new partnership with Microsoft, which will invest \$150 million in nonvoting shares of Apple stock. As Jobs put it, "Anything Apple and Microsoft do together is a standard." Jobs also positioned Apple as the computer of choice for those who "think differently." Apple, the tool for geniuses—not a bad slogan. —KT

APPLE + MICROSOFT = 100%
OF DESKTOP COMPUTERS

CATCH THE BUS!

Go out and show your support for your favorite operating system, 'cuz Apple's taking Mac OS 8 on tour. Two road shows will cross the country for almost three months! See when one will be in your general vicinity, then check out the Apple tour site for details at <http://www.apple.com/roadshow>. Coming soon to a mall near you.

August 8-10
Boston, MA: Columbia, SC
August 15-17
Nashville, TN; Ft. Lauderdale, FL
August 22-24
Chicago, IL; Orlando, FL
August 29-31
Minneapolis, MN; Dallas, TX
September 5-7
Detroit, MI; Houston, TX
September 12-14
Cleveland, OH; Kansas City, MO
September 19-21
Milwaukee, WI;
September 26-29
Colorado Springs, CO
October 3-5
Hartford, CT; San Jose, CA
October 10-12
Indianapolis, IN; Phoenix, AZ
October 17-19
Cincinnati, OH; Los Angeles, CA
October 24-26
Denver, CO; Orange County, CA
October 31-November 2
Pittsburgh, PA; San Diego, CA
November 7-9
St. Louis, MO;
San Bernardino, CA
November 14-16
Baltimore, MD; Seattle, WA
November 21-23
Newark, NJ; Portland, OR

The MacAddict Index

Sequential rank of Dr. Gilbert F. Amelio's wife, among the people whom he notified of his decision to resign as CEO and chairman of Apple Computer: 1

Approximate percentage of Power Computing computers distributed through direct-sales channels: 65

Anticipated price in dollars of one share of Power Computing stock, at the time of the company's initial public offering: 9

Number of shares of Power Computing stock outstanding, as of March 31, 1997: 17,719,113

Value in dollars of all Power Computing stock, based on anticipated price at time of IPO: 159,472,017

Price in dollars of one share of Apple Computer stock as of July 10, 1997: 12.75

Number of years since Apple Computer's stock price has been this low: 11

Number of shares of Apple Computer stock outstanding, as of May 2, 1997: 126,354,086

Value in dollars of all Apple Computer stock, based on July 10, 1997 price: 1,611,014,596.50

Approximate net worth of William H. Gates III, in dollars: 36,400,000,000

Approximate number of times over that Bill Gates could have bought Apple Computer on July 10, 1997 (ignoring, of course, all kinds of political and economic factors): 22.6

Average selling price of a new Mac during Apple's 1997 third fiscal quarter, in dollars: 2,400

Approximate number of new Macs Bill Gates could purchase: 15,000,000

Approximate number of signatures gathered by Futursmith's Truth Petition in protest against Mac OS 8's "butt ugly" new System font, Charcoal: 2,500

FOCUS ON: COMPETITIVE PRICING ACTIONS!

Estimated street price of Insignia Solutions' SoftWindows 95 prior to June 30, 1997: \$379

Estimated street price of Connectix Virtual PC (released on June 17, 1997): \$150

Estimated street price of SoftWindows 95 after June 30, 1997: \$199

Sources may be found on the MacAddict Web site.
—MS

PC Applications Driving You Bananas?



Put Orange[®]PC in Your Apple

Sometimes, to keep from going bananas, you must run a PC application on your Mac. The OrangePC[®] is an expansion card which allows you to run both Mac and PC programs simultaneously. It magically transforms your Apple into a dual computer platform which can support Windows[®]NT, NeXT[®] OPENSTEP[®], Windows[®]95, Windows[®] 3.1 or DOS. It makes thousands of PC applications compatible with your Macintosh system.

If you have a PCI based Performa (7" expansion slot), a full-sized PCI Power Macintosh compatible (12" slot) or a NuBus based Quadra, there's an OrangePC solution that's right for you. Whether you are budget sensitive, or performance hungry, you may select

a processor from the low-cost Intel[®]486 up to our exclusive Intel MMX Pentium[®] 200MHz.

And, the OrangePC is affordable, with prices starting at \$499.



The technical stuff: OrangePC models come in 7" or 12" PCI, and NuBus card types; up to 5x86 133MHz or up to MMX Pentium 200MHz; RAM from 8 to 256MB on board; up to 256K pipeline burst L2 cache; parallel port (for those delightful PC dongles); 2 high speed serial ports; 16 bit Sound Blaster[®] compatible In/Out; game port; one or two MB of video DRAM.

Call us today, and put an OrangePC in your Apple.



"17 Years of Innovation and Excellence"
1400 N. Lakeview Ave., Anaheim, CA 92807
(714) 779-2772 www.orangemicro.com



cravings

Bring it on! Your monthly half-dozen dose of deliriously delightful delicacies!

Studio 64 XTC

Opcode Systems

It may have worked for Dave Brubeck,

but it doesn't work for you. "Take Five" indeed. Some-

body needs to show that Brubeck fellow what *real* timing is. With a sigh of resignation at your role as the savior of world music—and the Opcode Studio 64 XTC digital synchronization unit—you

WHEN TIMING IS EVERYTHING.

shoulder yet another burden. Tragic, yet it makes good material for new compositions. At only \$495, the Studio 64 XTC provides synchronization for analog and digital multitrack machines and Mac-based hard disk recording systems. It has Worldclock and Superclock output ports (which let it control digital audiotape recorders) and performs SMPTE synch and translation. It also uses video and Blackburst signals as references. But there's more: The XTC can be used as a MIDI interface and can route MIDI Time Code signals. Contact Opcode Systems at 415-856-3333, or surf to <http://www.opcode.com> to find out what that whole meter thing was really about.



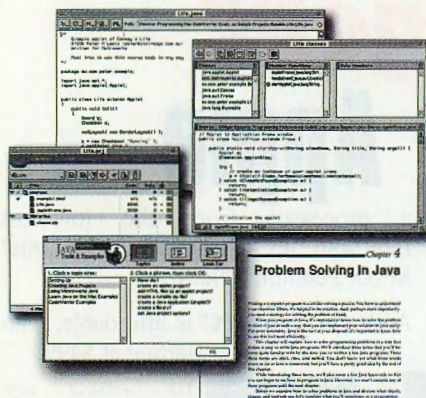
CodeWarrior, Discover Programming Edition

Metrowerks

When you were six, you made a promise to yourself. After the day your parents told you they were going to get ice cream—they'd be right back—and then left you at the bus stop with \$50, a pack of cigarettes, and a half-empty bottle of Jim Beam, you decided that you would never trust anyone again. And you would never be left behind. You're no dummy. You know that if you want to go anywhere in this digital age, you'd better have some tech skills, and what better—

more powerful— **LEARN THE DIFFERENCE BETWEEN `GetNextEvent()` and `WaitNextEvent()`.**

skill than being able to write your own software? Metrowerks may not have had you in mind when it created CodeWarrior, Discover Programming Edition, but this package will suit your needs. For only \$79 and a call to 800-377-5416 (or a visit to <http://www.metrowerks.com>), you get tools to write Java, C, C++, and Pascal programs (a project manager, a code editor, a code browser, all the compilers and linkers you'll need, a debugger, and other tools). You also get a series of electronic books that will start you on the road to programming. Although you won't have a license for commercial distribution, you won't need it to learn to program the Mac. And that's what it's all about, right? Not revenge, right? Right?



The Totally Techie World of Young Dilbert

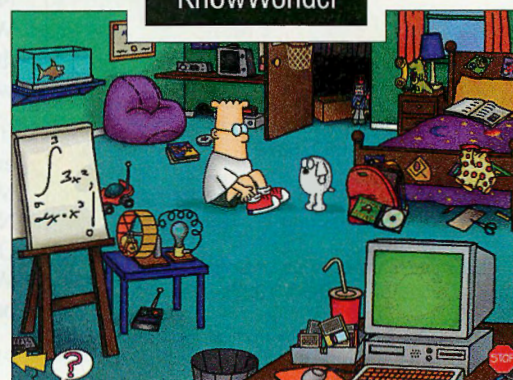
KnowWonder

As a parent, you want only the best for your child—the best schools, the best friends, and the best food. Most of all, you want your child to have the best training for the workaday world, and where better to get realistic training for tomorrow's computer-centered corporate world than from Young Dilbert. By hanging out with Young Dilbert, Dogbert, Ratbert, Bob, and

HEAL YOUR INNER DILBERT.

Noriko, your child (or, let's face it—you) can chase aliens, build an antipollution laser particle cannon, and get rid of a pesky computer virus. The Totally

Techie World of Young Dilbert has four adventure modules, giving you 20 different puzzles and games. To make sure your child has no illusions about the work world, bring Dilbert into your home as soon as possible by calling 888-566-9637. Prepare to spend \$34.95. Scott Adams will be proud (or at least a little more wealthy).



GearBox

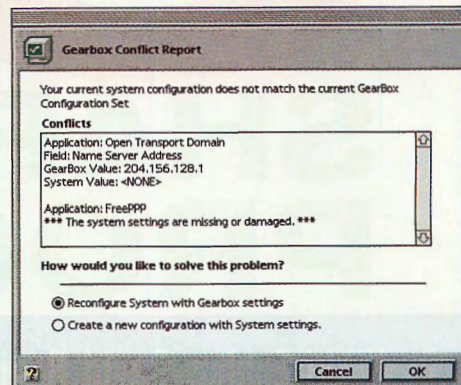
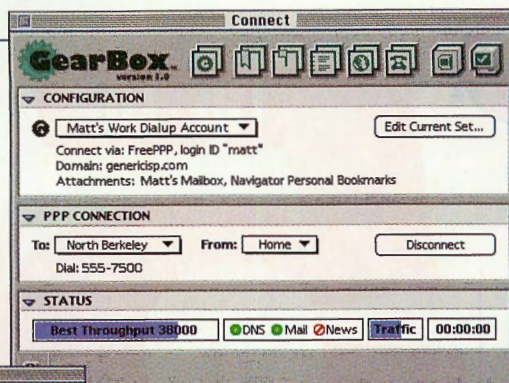
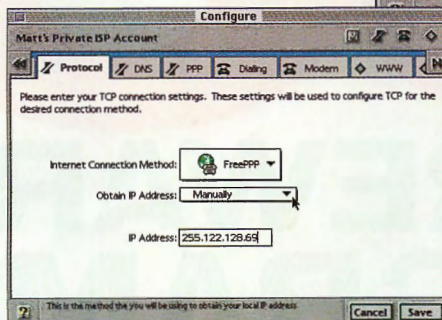
Rockstar Studios

It has been said that perhaps you've been spending a little too much time surfing the Web and that you really should get some sun—damned rickets, anyway. And you would, but you're *this close* to getting the perfect PPP connection. Besides, it takes so much time to switch between Internet settings and accounts, and that doesn't even take into consideration monitoring the speed of your connection. Rockstar Studios can help with

GearBox. This amazing collection of Internet connection tools keeps track of all your Internet settings,

watches for possible settings conflicts, and remembers your multiple locations and multiple accounts (including multiple bookmark files, mailboxes, and address books). You receive all this help for only \$29.95, and a visit to <http://www.rockstar.com> or an email to gearbox@rockstar.com. Try the demo version available from the company's Web site. Perhaps then you will follow doctor's orders, but don't forget the sunscreen.

TOOLS TO RULE THE INTERNET.



SiteCam

Rearden Technology



There's that other mouse they don't talk much about—Mortimer. The unofficial-avoid-a-lawsuit story goes that Mortimer lives in the faux mountain around which a roller coaster runs, waiting for the day when he can return to the surface world and reclaim the kingdom that was rightfully his. But until then, he must watch and wait. His observations of the surface world would go much better if he had the \$129 to purchase SiteCam 1.0, and a phone to call Rearden Technology at 415-550-7573 or a Web connection to go to <http://www.rearden.com>. This powerful software turns a video camera and a Mac into a Web cam capable of doing everything from sending a new image every five minutes via FTP to handling streaming live video to creating time-lapse videos that can be played back as QuickTime movies. SiteCam works well with a WSAPI- or MOSAPI-compatible server with a dedicated IP address, but it can be set up to work with a dial-up PPP connection. SiteCam also is fully AppleScriptable.

KEEPING AN EYE ON THE WORLD.

Advantage Twins PCI

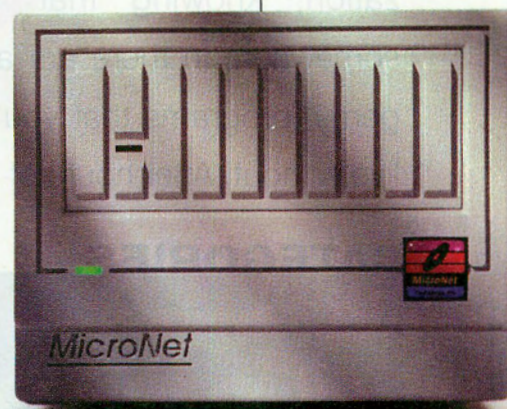
MicroNet

Inspired by another Spike Lee joint and taking note of the incredible creative brain at work behind the film, you've decided to embark on your own career in movie making—but with a twist so absolutely mind-bogglingly clever that no one has ever thought of it before. All of your work will be about pork and pork products.

Wow! The idea is so amazing that you giggle just thinking about it. But where to put all of that B-roll that you shot at the greased-pig

MASS STORAGE FOR THE MASSES.

contest last week? May we suggest the 6GB Advantage Twins hard drives. Smoother than the aforementioned slick swine, this pair of 3GB hard drives sits in a single enclosure and provides plenty of performance with the included SCSI PCI card. Check out the transfer rates of 9MB to 12MB per second. The drives come complete with MicroNet's drive software, DiskWorks. To ensure your future in digital video, gather your \$1,440, and contact MicroNet at 714-453-6000, or point your Web browser to <http://www.micronet.com>. —David Reynolds





shareware

THE TOP 50 SHAREWARE PROGRAMS

By Nikki Echler, David Reynolds, and Daniel Drew Turner



Think of it as a digital garage sale talking to the other garage-sale goers, sale. You arrive at 8 a.m., you take your purchases to the person in even though the sale begins at 9, charge and prepare to pay perhaps one-fifth what you would pay for brand-new, shrink-wrapped commercial software. Ah, but this is no ordinary garage sale.

The proprietor tells you to take your finds home, try them out for a few days or weeks, and if you decide that you like them, you can keep them. If not, well, you're under no binding

because you know all the good stuff goes first. You spend your time browsing through tables loaded with software piled high without regard to organization, knowing that somewhere in there are a few gems, programs that you can't live without. After hours of searching and



CATEGORIES



COMMUNICATION



CONFIGURATION



FUN AND GAMES



INFORMATION



COMPRESSION AND
TRANSLATION



DISK AND FILE



GRAPHICS AND SOUND



USER INTERFACE

obligation to pay—just throw the items away, and you're in the clear. Besides, some of those items are absolutely free, anyway, so you can just put them in your grocery bag and head on back home without spending a single one of your hard-earned dollars.

This little dream is the world of Macintosh shareware.

There are some amazingly great programs out there in that shareware yard sale; the hard part is finding them. Until now. We did that work for you, sifting through the mounds of software available for download until we came up with 50 insanely great software pro-

grams. We tried them out, and we have some tips and how-to's so that you get the most out of your shareware dollar.



shareware



FIND ALL 50 of the top shareware programs on The Disc. They're gems, every one.



Illustrations by Lloyd Dangle

50 SIMSTAPLER

"THE FIRST, TRUE
OFFICE-EQUIPMENT SIMULATOR."

DEVELOPER: FreeVerse Software

TYPE: Freeware

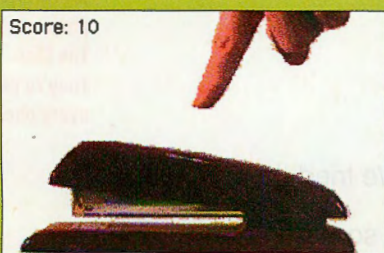
PRICE: Free

CONTACT: <http://www.freeverse.com>



It's free, but if you enjoy SimStapler, the creators do ask that you steal office supplies from work and send them to their offices in New York. They enjoy anything colorful that they can hang on their walls and pens bearing company logos; Colin (the stunt finger) would like a photocopier, please. You and your children can virtually staple enormous quantities of imaginary paper for as many hours, minutes, or seconds that you care to waste, and it's all

Score: 10



SIMSTAPLER lets you staple all day without wasting paper. Do 10 staples for a surprise!

ABSOLUTELY FREE TO YOU WITH NO PAYMENTS AT ANY TIME! This is the perfect gift for anyone who has ever wanted a stapler but not the staples. Or the paper. Get one while supplies last.

REQUIREMENTS: A real desire to staple.

HOW TO USE: Double-click the application, and start stapling without the inconvenience of reloading, recycling, or removing bloody staples from clumsy fingers.

49 ZipIt

DEVELOPER: Tom Brown

TYPE: Shareware

PRICE: \$15

CONTACT: <http://www.awa.com/softlock/zipit>



There are those of us who have to share files on a regular basis with other computer platforms that use the Zip compression method. Although the StuffIt Expander/DropStuff with Expander Enhancer will decompress Zipped files, these programs will not create Zip archives. That's where ZipIt comes in awfully

handy. ZipIt creates Zip archives that you can then send to folks using Zip compression on PCs or Unix systems. ZipIt also allows you to encrypt your Zip archives and to segment archives (great for getting large files onto multiple floppy disks). ZipIt even is AppleScriptable.

REQUIREMENTS: System 7 or later

HOW TO USE: Double-click the ZipIt application, and you're ready to go.

48 VREMYA



DEVELOPER: Kirill Levchenko

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.lava.net/~kirill/software>

Vremya is a word meaning *time* in Russian. Vremya the software, not surprisingly, sets your Mac's System clock. It works by calling up a Network Time Protocol server (if the default server Vremya picks upon launch doesn't work, the documentation will point you to an URL of a list of servers), checking your clock against the server's, and setting your Mac's aright. It's that simple. Vremya was meant to work only under MacTCP, but we tested it with OpenTransport, even behind a firewall, and it seemed to cope just fine.

You also can keep Vremya running while your Mac is up and tell it to correct your clock against the server's at an interval of your choice. One caveat: Vremya won't correct for daylight-saving time, so make sure you've got that correctly set in your own System's Date and Time control panel. We didn't, and Vremya corrected our Mac's clock by 3,625 seconds.

REQUIREMENTS: System 7 or later, MacTCP or OpenTransport, Internet connection

HOW TO USE: Double-click the application icon, and set your Mac's clock.

47 JARED



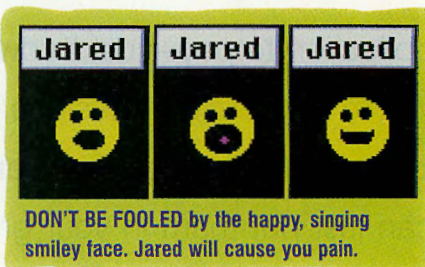
DEVELOPER: FreeVerse Software

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.freeverse.com>

"Never has the mating of cats sounded so melodic as after one has listened to 'El Carnicero de Canciones,' the 'Butcher of Songs,' as Jared was known in Guatemala. Yet, this is perhaps the worst part; one is somehow drawn to his song, playing it over and over again. So, listen to 'Shala-uugh', and suffer—for this is art." —excerpted from the liner notes of Jared,



DON'T BE FOOLED by the happy, singing smiley face. Jared will cause you pain.

a compelling rip-off of a Guatemalan folk song, performed by a previously unknown smiley face. You know how when you hear an accident happen outside your house/apartment/hut/dorm room/jail cell, you run right out (well, maybe not from the jail cell) and uncontrollably stare at the damage as time seems to stand still? Well, it's kind of like that. Jared is also available as an OpenDoc part.

REQUIREMENTS: A strong stomach for "alternative" music

HOW TO USE: Double-click the happy face; brace yourself.

46 Pict2Ascii



DEVELOPER: Pascal Lamboley

TYPE: Freeware

PRICE: Free (The developer says you can send him \$5,000 if you want, but you don't have to.)

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Dpict2ascii>

Where would Western civilization be without the ASCII email picture of the Magna Carta that has been making the rounds lately? Now you can join the pack and create your own ASCII images. All you need is a PICT that you want to turn into an ASCII image—and Pict2Ascii, of course. Just drag your PICT image onto Pict2Ascii, and the software goes to work, interpreting image levels as ASCII characters. Oh, sure, you may say this doesn't have any practical value, but hey, it's a lot of fun.

REQUIREMENTS: 68020 or later (color capable), System 7.0 or later

HOW TO USE: Drag and drop images onto the Pict2Ascii icon to start the conversion. The window has several controls that let you change the ASCII font and alter other attributes.

45 GifScan



DEVELOPER: Marc Boon

TYPE: Shareware

PRICE: Free (\$10 for commercial use)

CONTACT: <http://www.users.dircon.co.uk/~march/gifscan.html>

For those of you who insist on tuning your Web pages for quick and painless download (and bless you who do), GifScan makes your job easier. Just drag and drop a GIF file (or group of files) onto GifScan, and it automatically





shareware

generates the necessary IMG tags that include proper Height and Width tags, and ALT tags. GifScan can collect those HTML tags in an output window or send them directly to the Clipboard for easy pasting. GifScan also provides amazingly detailed information about individual GIFs, down to the number of colors in the file, the background color index, and the definition of each color in hexadecimal.

REQUIREMENTS: System 7 or later

HOW TO USE: Drag GIFs onto the application, and GifScan automatically generates the appropriate tags.

44 SNITCH

DEVELOPER: Mitch Jones

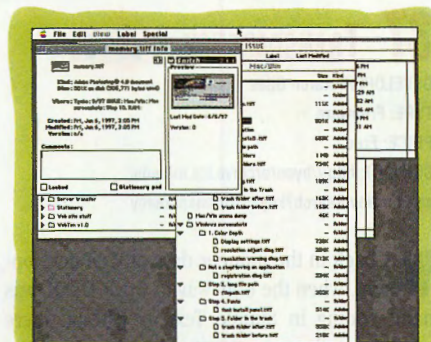
TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.niftyneato.com/Snitch.html>



The venerable Get Info box has its uses, but they are usually limited to setting an application's memory partition. Snitch adds useful features to the Get Info boxes, such as allowing you to preview a file's contents (both picture and sound), view and alter the file's type and creator, reconnect broken aliases, edit a file's creation



SNITCH WILL TELL YOU more about your files than you ever wanted to know.

and modification dates, make invisible files visible, or view Stuffit Comments. Much of this is achieved through Snitch's plug-in architecture.

REQUIREMENTS: System 7 or later (Snitch 2.5 is compatible with OS 8)

HOW TO USE: Drop the Snitch control panel into your Control Panels folder, restart your Mac, and take advantage of the expanded Get Info boxes. Customize that expanded information via the Snitch control panel.

43 KALIMAC

DEVELOPER: Kali

TYPE: Trialware (15-minute time limit)

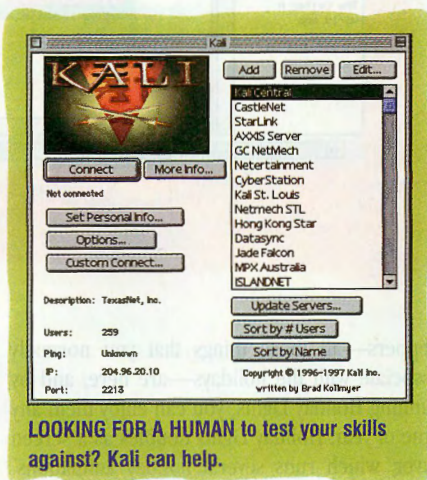
PRICE: \$20

CONTACT: <http://www.kali.net>



Got a hankering for games but have never met a computer AI that could hold its own against

you? Allow us to introduce Kali for the Macintosh. This little control panel/application combo fools your Mac into thinking it's on a very large IPX network, which lets you play such games as Warcraft 2, Command & Conquer, Descent 2, MechWarrior 2, and Doom against real, live humans across the globe. For a one-time \$20 fee, you register with Kali and get unlimited access to its gaming network. There, you'll find hundreds (even thousands) of other gamers who are just *itching* for your blood. Think you have what it takes to grind them into



LOOKING FOR A HUMAN to test your skills against? Kali can help.

the fine dust that they are?

REQUIREMENTS: System 7 or later, MacTCP 2.0.6 or Open Transport

HOW TO USE: KaliMac is a control panel. After it's installed in the Control Panels folder, you'll need to restart your Mac. KaliMac also includes kchat, a chat program for talking to other Kali users.

42 VIRTUAL DRUMMER

DEVELOPER: Jon Nichols

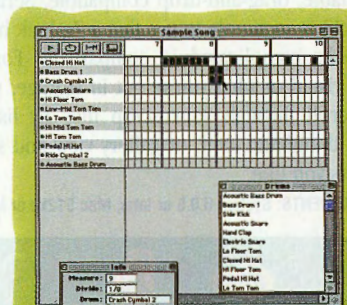
TYPE: Freeware

PRICE: Free

CONTACT: <http://www.igs.net/~jonnichols>



So you want to be a drummer, but you don't have the cash to buy a full set—and you'd rather not annoy that 300-pound biker chap who lives upstairs. What do you do? Grab a copy



RINGO STARR you're not, but with Virtual Drummer, you can pretend.

of Virtual Drummer, that's what, and save yourself some serious money—at least in the beginning of your drumming career. By taking advantage of QuickTime 2.5, Virtual Drummer lets you drag all kinds of percussion instruments onto the music sequencer window so you can set up your very own rhythm tracks. You can even import and export MIDI tracks. If you're feeling a bit nostalgic, you can include the hand claps instrument in your licks for a '70s-style throwback.

REQUIREMENTS: System 7 or later, QuickTime 2.5 or later

HOW TO USE: Install the application, drag and drop some drums onto the sequencer, add some frames, and start selecting points for your percussion.

41 JPEGVIEW

DEVELOPER: Aaron Giles

TYPE: Postcardware

PRICE: A simple postcard (and no, email doesn't count)

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Djpegview>



JPEGView lets you view JPEG, GIF, PICT, TIFF, MacPaint, BMP, and Startup Screen-format images, and it does so in an 800K memory partition. Besides letting you view images and creating image previews, JPEGView serves as an electronic slide-show application, and it can display images over the full screen. For you automation mavens out there, JPEGView has full AppleScript support—handy for batch processing. What else can you say?

REQUIREMENTS: System 7 or later

HOW TO USE: Drag and drop images to JPEGView's icon to see them. The application's menus let you create

What's the Diff? Shareware, freeware, trialware, and public domain

• **Freeware**—Software that's free to use but isn't necessarily free to distribute. Freeware is not the same as public domain software.

• **Public domain**—This goes beyond free in that you can do anything you want with it.

• **Shareware**—Software that's distributed via the honor system. You try it, and if you like it and use it, you send in a registration fee.

• **Trialware**—Same as shareware except that the software stops working after a set time.

previews and make a slide show.

40 TRYGVE'S CMM Plug-Ins

DEVELOPER: Trygve Isaacson

TYPE: Shareware

PRICE: \$10

CONTACT: <http://www.bombaydigital.com>

Before Mac OS 8 was released, contextual menu plug-ins started popping up. Trygve's CMM Plug-Ins were the first such set released (as far as we know). You can make a file invisible; lock or unlock a file; lift or set file creator and type information; strip HTML tags from a text file; convert text to Mac, DOS, or Unix text; and "touch" a file—all with a Control-click and a drag. These simple little plug-ins showcase the power of OS 8's extensible plug-in menus.

REQUIREMENTS: Power Macintosh, Mac OS 8

HOW TO USE: Drop Trygve's CMM

Plug-Ins into the Contextual Menu Items folder, then Control-click on a file.

39 HOLIDAY LIGHTS

DEVELOPER: Tiger Technologies

TYPE: Shareware

PRICE: \$15

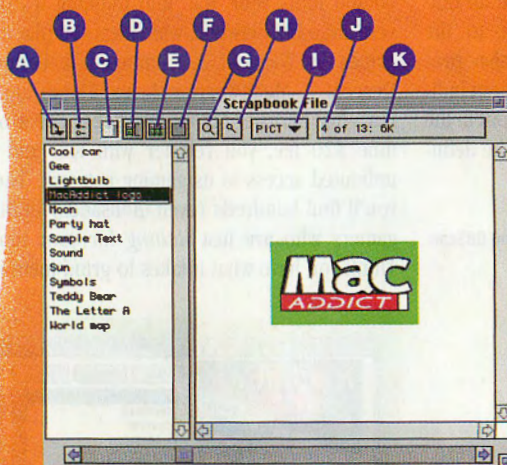
CONTACT: <http://www.tigertech.com>

Ah, to be in the holiday spirit, just full of that Ayuletide cheer. Holiday Lights lets you string up your Mac's monitor to be just as festive, or obnoxious, as your next-door neighbor's best lighting creation. Blinking lights, music, chili



IT'S SO FESTIVE, and you won't have to face lawsuits from neighbors over light pollution.

38 ScrapIt Pro



- A.** Lists all your scrap files.
- B.** Sets the preferences for each Scrap file.
- C.** Displays name list view of scrap items.
- D.** Shows thumbnail list view of scrap items.
- E.** Displays scrap items in a gallery mode.
- F.** Removes the list of scrap items from the display.
- G.** Lets you search for text in any scrap file.
- H.** Looks for the next mention of the last text search.
- I.** Displays file type, such as PICT, TEXT, and SND.
- J.** Shows the total number of items in the scrap file, and where in that list you are.
- K.** Reveals the size of the scrap.

peppers—all those things that you normally associate with the holidays—are here, and by running Holiday Lights, you can enjoy them any time of year. Holiday Lights doubles as a screen saver, which runs several holiday animations. You can customize your strings of bulbs, and you can select which background music you want to play. Registering Holiday Lights lets you access more bulbs and more songs.

REQUIREMENTS: Color-capable Mac, System 7 or later

HOW TO USE: Double-click the application to start stringing bulbs. If you get tired of them, just quit the application.

HOW TO USE: Launch the application, and create a new ScrapIt Pro scrapbook file in which to start storing your data.

37 TRANSPARENCY

DEVELOPER: Aaron Giles

TYPE: Freeware

PRICE: Free

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Dtransparency>

Way back in the pioneer days of Web development, when the only way to work HTML was hand coding in Simple Text or BBEdit, there came onto the scene a new breed of graphic. Seems you could set one color in your GIF image as transparent so that it would automatically take the color of the Web page's background. It's something we take for granted in this day of WYSIWYG Web editors, but back then, sonny, that was something to talk about. Problem was, there was no easy way to take advantage of this feature. Until Transparency rode into town, that is. Aaron Giles' Web utility Transparency makes it child's play. Simply drag and drop your GIF file onto the Transparency icon, or Open the file from within Transparency, and click and hold the cursor on whatever color you want to make transparent. Up pops a little palette of the GIF's color table. You can select a different color, None, or simply release the mouse. After you make your choice and let go, the utility redraws your file against a gray background (Web pages used to use gray, see) to show you what the image will look like. If you like what you see, go to Save as GIF89a... in the File menu, and you're done.

38 ScrapIt Pro

DEVELOPER: John V. Holder

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.northcoast.com/~jvholder>

ScrapIt Pro, your one-stop storage shareware Scrapbook, is a simple little utility that's capable of keeping your GIFs, JPEGs, sounds, text notes, QuickTime videos, and even your email in one convenient location. Editable, searchable, drag-and-drop compatible, ScrapIt Pro 5.33 is so simple to use that a Ziplock baggie looks complicated in comparison. For a quick visual of what you've got in storage, you can scroll through your scrap files by listed name, thumbnail icon, or gallery view and sort them as you like.

REQUIREMENTS: System 6.0.5 or later, Mac 512ke or later



REQUIREMENTS: Color-capable Mac, System 7 or later
HOW TO USE: Open the GIF to be made transparent, click and hold on the color to be transparent, and select a color from the GIF's color table.

36 Disk Charmer

DEVELOPER: Fabrizio Oddone
TYPE: Shareware
PRICE: \$10
CONTACT: <http://www.kagi.com/authors/fab>



So floppy disks aren't so useful anymore, what with the advent of four-gig hard drives. They still have their place, though, and Disk Charmer makes sure you get the most out of your floppies. Disk Charmer not only allows you to format floppy disks (big deal—the Mac OS does that), you can use it to verify floppies, do a quick erase, or make your floppies and Zip disks a little larger than they otherwise would be, and all in the background. Disk Charmer also allows you to undo an erased disk (only if Disk Charmer did the erasing), and it makes pithy comments about other extensions on your hard drive.

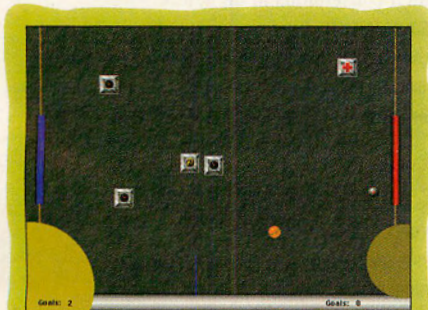
REQUIREMENTS: System 7 or later
HOW TO USE: Double-click the application icon, then go to work on your removable media.

35 MORTALPONGBAT

DEVELOPER: David Hirschfield
TYPE: Shareware
PRICE: \$20
CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Dmortalpongbat>



Finally, you can go on the offensive in Pong. It's about time. MortalPongbat fuses the bloody action of Mortal Combat with the high-tech appeal of Pong. The result is more fun than you might imagine. The basic gameplay is the same: Knock the ball past your opponent's paddle while keeping him or her from doing the same. MortalPongbat, however, adds additional twists with lasers, exploding balls, and more. You can play against the computer or



THOSE SEMICIRCLES in the corners aren't just for decoration. They're lethal explosions.

against another human. You'll wonder how you ever suffered through a game of regular Pong once you try MortalPongbat.

REQUIREMENTS: 68020 or faster Macintosh (color capable), System 7.1 or later
HOW TO USE: Double-click the game icon, and prepare to move quickly.

34 DiskTracker

DEVELOPER: Mark N. Pirri
TYPE: Shareware
PRICE: \$20
CONTACT: <http://web.mit.edu/mnp/www/dt.html>



Sure, everyone should back up their hard drives on a regular basis, but the process is so difficult, especially if you don't know what's on all of those Zip disks that you keep in a shoe box above your monitor. DiskTracker comes to the rescue by quickly cataloging pretty much any media you can use with your Mac, including CD-ROMs, hard disks, floppy disks, Zip disks, and network volumes. DiskTracker allows you to search for files using multiple criteria and to launch those files with a double click; it even lets the Martha Stewart in you create your own festive disk labels.

REQUIREMENTS: System 7 or later
HOW TO USE: Just drag the disk to be cataloged onto DiskTracker's application icon, and it will start indexing.

33 NetFinder

DEVELOPER: Peter Li and Vincent Tan
TYPE: Shareware
PRICE: \$20
CONTACT: <http://www.ozemail.com.au/~pli/netfinder>



One reason why the Mac is successful is that it's a friendly computer. It looks friendly. It acts friendly. Keeping that friendliness intact is a challenge when dealing with the Internet, mainly because much of the Internet's protocols were meant for Unix, which is not known for its congeniality. NetFinder puts a Finder-like face on FTP connections, giving you the sense that you're navigating just another Finder window in list view mode when you actually are connected via the Internet to an FTP site halfway across the country. Just click the triangle next to a folder to open it, and that folder reveals its contents, as you expect with a Finder window. Double-click a file to download it, and the progress dialog looks like a file copy. You even can sort the window's contents by name, kind, date, or size.

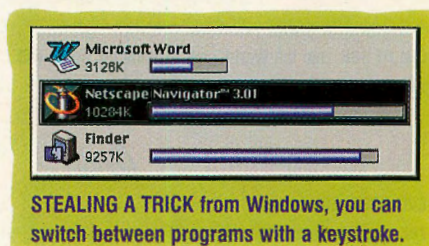
REQUIREMENTS: System 7 with Thread Manager, or System 7.5 or later; color-capable Mac; MacTCP 2.0.4 or Open Transport 1.1.1; Internet connection
HOW TO USE: Double-click NetFinder, enter your FTP information, and you're ready to download.

32 Program Switcher

DEVELOPER: Michael F. Kamprath
TYPE: Trialware (50 uses per boot)
PRICE: \$10
CONTACT: http://www.kamprath.net/clairware/program_switcher.html



OK, we have to admit it: Windows 95 does have a couple of useful features, and one of them is a key combination that lets you switch between programs. The control panel Program Switcher brings this ability to the Mac, letting you switch between programs with a simple Option-Tab. You can customize which keys make the switch, and you can choose how your applications are displayed: by name, by icon, or by memory usage. Program Switcher also lets



STEALING A TRICK from Windows, you can switch between programs with a keystroke.

you configure your function keys to do things such as hide all apps except the Finder. Great for those who prefer the keyboard.

REQUIREMENTS: System 7 or later
HOW TO USE: Put Program Switcher in the Control Panels folder, and restart your Mac. Open the control panel, and reconfigure the key combination to switch programs, if you like. You can also set Program Switcher's power user keys in the control panel.

31 WorldClock Lite

DEVELOPER: Leighton Paul (No, we didn't get his name backward. Jeez. Where's the trust?)
TYPE: Shareware
PRICE: \$15
CONTACT: <http://www.hourworld.com>

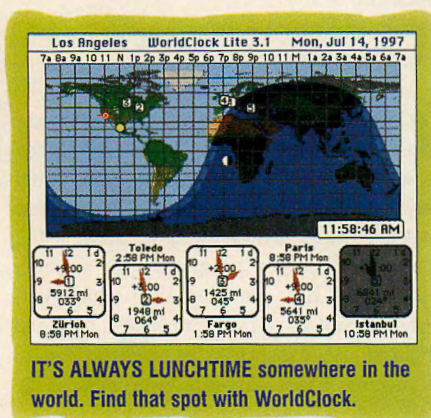


Astronomy buffs, world travelers, clock watchers, and connoisseurs of all gadgets cool will want to load up WorldClock Lite 3.1 to keep constant tabs on the local viewing hours for the sunrise, sunset, moonrise, and moonset at any of more than 200 sites included in the program's database. (If your hometown didn't make the cut, a nearby town or city probably did, and the results will still be fairly accurate.) This global clock ticker also displays the current day and night patterns across the world as well as the immediate time at five different locations shown by five different clocks lining the bottom of the display. As user-friendly as a shop clerk on commission, WorldClock's times and locations are easier to set than your bedside alarm clock,



and the program won't bother you with any 6 a.m. wake-up calls.

REQUIREMENTS: Macintosh II or later



IT'S ALWAYS LUNCHTIME somewhere in the world. Find that spot with WorldClock.

HOW TO USE: Run the WorldClock application, and it will open a window on the world.

30 AGENT AUDIO

DEVELOPER: Clixsounds

TYPE: Shareware

PRICE: \$12

CONTACT: <http://www.clixsounds.com>

This is a great program for Mac customization freaks. Agent Audio allows you to replace a program's native sounds with your own Mac sound files or save a program's sound resources as Mac sound files. It even lets you archive sound settings so you can revert to the originals if you mess up. For instance, you can replace Eudora's pedestrian do-DOO-wup "You have new mail." sound with a bar from "The Rites of Spring." Beats hacking resources in your fave apps. For shareware, Agent Audio has a pretty professional—and useful—interface. You select applications or files you want to customize, then open the sound resources you want to insert (they have to be System 7 or SND type). Cool features: You can preview a sound and get Resource Numbers and Resource Names from within Agent Audio. Then just select the sound you want to replace and the sound you want to install, and either drag the replacement sound from the Source File list to the Destination File list or click Agent Audio's Move button. Then just save and listen.

REQUIREMENTS: Color-capable Mac, System 7.1 or later

HOW TO USE: Launch the application. In the right window, select the sound file to be used as a source. In the left window, select the application in which you

30 Agent Audio



A. Source file for sounds.

B. Sounds within the source file.

C. Adds source/destination files.

D. Gets information on sound resources.

E. Plays selected sound.

F. Closes source files.

G. Reverts the destination file.

H. Closes the destination file.

I. Saves the destination file.

J. Deletes a sound file.

K. Creates a sound archive file.

L. Just looks cool.

M. Creates a replacer agent, which keeps the changes in a small applet rather than applying them to the application. Not available in the shareware version.

N. Calls up help for Agent Audio.

O. Replaces or copies a sound from the source to the destination.

P. Stops playing the sound.

want to install those sounds. Then let 'er rip.

29 7TUNER

DEVELOPER: Jerry Du

TYPE: Shareware

PRICE: \$15

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3D7tuner>

Want to customize the look and feel of your Mac but hate the idea of adding more extensions and control panels? Check out 7Tuner. With this marvelous utility, you can add or change Finder command keys; install 3D System folders and color system icons; change the Finder's zooming rectangles, the rename delay, and the style of alias names; Change the machine name and icon in the About This Macintosh/Computer menu item; choose foreground and background colors for menu items and bars; and change the wristwatch animated cursor to any of your liking. All of this without ResEdit! 7Tuner makes a copy of your System and your Finder, then works its magic on these files—that's how it keeps new extensions out of your Mac. To use 7Tuner, just launch the program, let it make its copies, and then click any one of the eight icons to start the magic.

REQUIREMENTS: System 7 or later

HOW TO USE: Open the 7Tuner application, and click on the various customization buttons to start making changes to your Mac.

28 SPARKLE

DEVELOPER: Maynard Handley

TYPE: Freeware

PRICE: Free

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Dsparkle>

Although Apple improved QuickTime's ability to deal with MPEG files, it's still not always easy to get them to work correctly. Here's another alternative: Sparkle. For a nominal fee of nothing, Sparkle not only plays QuickTime movies but also plays MPEG files and opens sets of PICT files (in order to convert them to a movie)—it can convert between these file formats. Expect to see more complete AppleScript support for batch conversions in the future.

REQUIREMENTS: Color-capable Mac, System 7.5 or later
HOW TO USE: Drag movies onto Sparkle's icon (or open them with the program's File menu), and you'll be ready to view them.

27 TYPEIT4ME

DEVELOPER: Riccardo Ettore

TYPE: Shareware

PRICE: \$30

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Dtypeit>



Typelt4Me saves keystrokes. That's its whole reason for existing, and it does an admirable job. After you define a set of abbreviations, what those abbreviations stand for, and some expansion triggers, your Mac starts fleshing out words for you as you type. Just drag the Typelt4Me Control Panel to the Control Panels folder, restart, and you're ready to configure the program. A small icon appears in the space to the left of the Apple menu, which will expand to Typelt4Me's menu. From here you add or edit entries, and access date and time functions. A must for those of us who often repeat ourselves.

REQUIREMENTS: System 7 or later

HOW TO USE: Drop the control panel into the Control Panels folder and restart your Mac. Then open Typelt4Me's menu (now in the menu bar), and start entering abbreviations.

26 DOCMAKER

DEVELOPER: Green Mountain Software

TYPE: Shareware

PRICE: \$25 noncommercial, \$35 commercial

CONTACT: <http://www.hsv.tis.net/~greenmnt>



DOCMaker is the answer to the question posed by Adobe Acrobat: "How do I create an electronic document that every Mac user can read?" With DOCMaker you can play Gutenberg far less expensively than you ever could in the print era. DOCMaker allows you to create 100 chapters of 32K each and embed up to 60 graphics in each chapter. You can turn graphics into "hot pictures," which act like buttons and can play QuickTime movies, sounds, or send AppleEvents at the click of a pointer. DOCMaker can import text files or can use MacLink translators to bring in text from just about any flavor of word processing document you can put on your Mac.

REQUIREMENTS: System 7 or later

HOW TO USE: Double-click the DOCMaker application, and get ready to import text and graphics.

25 ULTRAFIND

DEVELOPER: UltraDesign Technology

TYPE: Shareware

PRICE: \$39.95

CONTACT: <http://www.ultradesign.com>



This is the tool for true power users, especially if you have a huge hard drive with lots of files. UltraFind searches your hard drive using criteria such as text, file type, size, and attributes to find exactly what you are looking for. UltraFind also takes the time to look inside documents to match text inside the file, which can be invaluable when you know some text from inside the file but have no idea what the file's name is. When you find a file, you can move it about in UltraFind's hierarchy window. UltraFind also has a free plug-in

29 7Tuner

A. Changes your Finder Command-key equivalents.
B. Installs 3D System Folders.

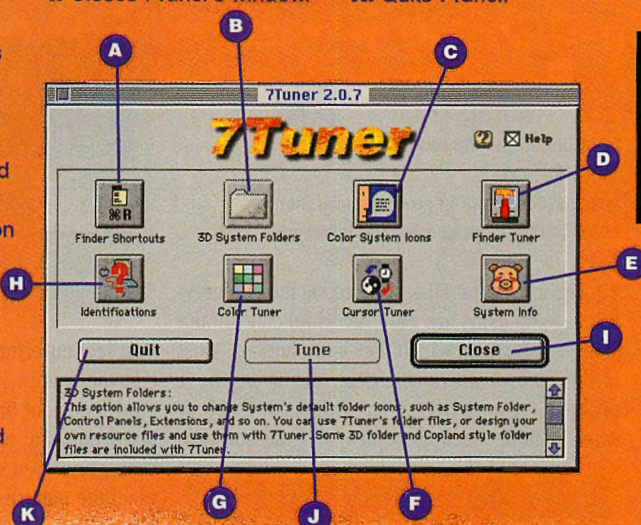
C. Changes System icons to color versions.
D. Alters Finder settings, such as zooming rectangles, rename delay, and alias name appearances.

E. Shows basic information about your Macintosh.
F. Changes the look of the animated cursors.
G. Changes menu bar, menu, and Finder window backgrounds.

H. Changes the name and machine icon that appear

in the Finder's About This Computer... window.
I. Closes 7Tuner's window.

J. Makes the changes to your System permanent.
K. Quits 7Tuner.



shareware



called Text Indexer, which pre-indexes your documents. This makes UltraFind's searches amazingly fast.

REQUIREMENTS: System 7 or later

HOW TO USE: Double-click the UltraFind application icon, select some options from the main interface, and start searching. It helps to go through the included tutorial.

24 MT-NEWSWATCHER

DEVELOPER: Simon Fraser

TYPE: Freeware

PRICE: Free (duh)

CONTACT: <http://www.santafe.edu/~smfr/mtnw>



The most painful part of using UseNet is not the mounds of spam that you have to wade through to get at that one kernel of truth. No, the most painful part of using UseNet is downloading the full group list from your news server via a 14.4Kbps modem. That is, unless you're using MT-NewsWatcher, in which case you can start that download and then move on to other things. MT-NewsWatcher's multithreaded nature (thus the MT in the title) allows you to do lots of things with NewsWatcher at the same time, such

as download articles from several different newsgroups or do several binary extractions. And if that weren't enough, MT-NewsWatcher also does thy bidding via speech recognition, if talking to your Mac while surfing is your bag.

REQUIREMENTS: System 7 or later with Thread Manager, or System 7.5.3 or later; MacTCP or OpenTransport; Internet connection

HOW TO USE: Double-click the application, enter your news server information in the preferences, and you're set.

23 FILE BUDDY

DEVELOPER: Laurence Harris

TYPE: Shareware

PRICE: \$35

CONTACT: <http://www.skytag.com/FB.shtml>



File Buddy does just about anything you could possibly think to do with files on your disks. Combining the power of ResEdit, Find File, Aladdin Systems' Spring Cleaning, and a few other not-easy-to-classify abilities, File Buddy helps you keep the thousands of files on your 4GB hard drive under control. Get all kinds of interesting information about a given file (just drag and drop), reconnect broken aliases, change type and creator codes, find all the invisible files on your hard drive (and there are probably a lot of them), and do maintenance on your desktop file. This is a not-to-be-missed utility for basic

i

THE REASON WHY there are so many UseNet readers out there is that the original NewsWatcher is public domain. That way, lots of people can create their own versions of the program.



hard drive maintenance.

REQUIREMENTS: System 7 or later

HOW TO USE: Double-click the File Buddy application icon, and start making menu choices.

22 SHRINKWRAP

DEVELOPER: Chad Magdanz

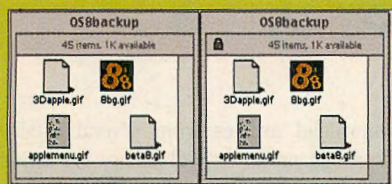
TYPE: Shareware

PRICE: \$20 (freeware for noncommercial use)

CONTACT: <http://www.halcyon.com/shrinkwrap>



Here's a shocker: Disks copied via the Finder by dragging icons are not exact duplicates of the source disks from which they were copied. Most of the time, that's no big deal, but it can be a problem if you need an exact duplicate (such as when making backup copies of your software



IS IT LIVE, or is it Memorex? Only ShrinkWrap knows for sure.

installation disks). ShrinkWrap lets you create disk images that are identical to the source disk and are usable as if they were disks themselves. As an added bonus, these disk images can take less space than the actual disks. Version 3.0, which includes some very cool new features, is on the way.

REQUIREMENTS: Mac Plus or later (SE or later required for the full set of features), System 7 or later

HOW TO USE: Just drop a disk icon onto that of the ShrinkWrap application, and a disk image is created. Drop a disk image onto the application, and ShrinkWrap mounts it as if it were a disk.

21 GRAPHICCONVERTER

DEVELOPER: Lemke Software

TYPE: Shareware

PRICE: \$35

CONTACT: <http://members.aol.com/lemkesoft>



At first glance, GraphicConverter might seem like a poor person's Photoshop. After all, it lets you edit 32-bit images and apply effects and filters to those images; it also handles just about every graphics file format known, including GEM, Lotus-PIC, PCD, and HPGL. But



THE ROCKY MOUNTAINS never looked better, and they can be saved in several formats.

GraphicConverter does more than that. It can edit the frames in a GIF animation, does batch conversions of images and batch conversions of text from Mac to Unix to DOS to VMS to Atari styles, and even catalogs (and prints a catalog) of all the picture files in a selected folder.

REQUIREMENTS: Color-capable Mac, System 7 or later

HOW TO USE: Drag and drop images on GraphicConverter's icon, or open them from within the program. Tools are stored in a floating palette, and filters and such are accessible from menus. Adobe Photoshop users won't have any difficulty finding their way around.

20 WINDOW MONKEY

DEVELOPER: Tiger Technologies

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.tigertech.com>



Tiger Technologies' Window Monkey adds something to the Finder



A COOL POOL in an open Finder window.

that it sorely needs: a Window menu. By dragging this control panel to the Control Panels folder and restarting, you automatically get the aforementioned menu, and you also get a much more amusing feature: the ability to apply background patterns to Finder windows. Select a

Finder window, then look under the View menu. There's a new item here that lets you select from a series of background patterns. Although a few of these are useful (such as the lined notebook paper background while in List view), several actually obscure the contents of the window, making them darn near impossible to read. But so what? Window Monkey is so cool that it doesn't matter.

REQUIREMENTS: System 7.5 or later

HOW TO USE: Drop the Window Monkey control panel into the Control Panels folder, and restart your Mac to take advantage of all of those patterned Finder windows.

19 SNAPZ PRO

DEVELOPER: Ambrosia Software

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.AmbrosiaSW.com/Products/SnapzPro.html>



The Mac has always had the ability to take screenshots, but unfortunately, this ability doesn't always work properly—say, when you want to capture a menu or a great moment in a game. Even though Mac OS 7.6 helped this situation by allowing the capture of selected windows or an arbitrary part of the screen, it still didn't address the limitations of when you could take screenshots. Snapz Pro, however, does. With Snapz Pro, you can take screenshots under just about any circumstances (except while playing certain LucasArts Entertainment games), and you can choose to take a shot of the entire screen, a window, a menu, or an arbitrary selection. Those screenshots are then saved as PICT files in the Screen Snapz folder, and they can be given creator codes for one of several popular graphics programs for easy loading. Snapz Pro also can scale and dither images on the fly, can remove the cursor from your shot, and lets you name each screenshot as you take it.

REQUIREMENTS: Color-capable Mac, System 7 or later

HOW TO USE: Run the Snapz Pro installer, and it will install a control panel and a folder titled Screen Snapz. After restarting your Mac, open the Snapz control panel to specify file format, key combination, and all those other goodies.

18 DOWNLOAD DEPUTY

DEVELOPER: Iles Software.

TYPE: Trialware

PRICE: \$10

CONTACT: <http://www.ilesa.com>



One of the most tedious things to do is to take advantage of all the software available on FTP sites. But say you're going after that 15-part archive of MKLinux over a modem and you want something more from life than nursing a gaggle of file transfers. What do you do? Take a look at



COMMUNICATION



COMPRESSION
AND TRANSLATION



DISK AND FILE



USER INTERFACE



CONFIGURATION



GRAPHICS
AND SOUND



FUN AND GAMES



INFORMATION

Download Deputy. This gem handles batch downloads, grabs all FTP URLs that you click on in your browser, and has a full scheduler, which lets you select download times for each file transfer that you've put in the program's queue. **REQUIREMENTS:** 68020 or faster processor, System 7 or later (benefits from Netscape Navigator or Microsoft Internet Explorer, or InternetConfig)

HOW TO USE: Double-click the Download Deputy application icon, enter a URL, and click Go!

17 GURU

DEVELOPER: Newer Technology

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.newertech.com/software.html>

When it comes down to upgrading your Mac, the world's most friendly computer loses some of its appeal. GURU, which stands for Guide to RAM Upgrades, helps you sort out what

kind of memory to get for your Mac. GURU handles both RAM and VRAM, and it also gives you some other interesting information about almost every Mac out there. Fun to browse, GURU even can talk to you by using Text to Speech software.

REQUIREMENTS: Just about any Mac

HOW TO USE: Open GURU, and select the Mac in which you are interested from the floating palette. Its information pops up in a new window.

16 SOLITAIRE TILL DAWN

DEVELOPER: Semicolon Software

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.semicolon.com>

Computer solitaire is the biggest blow to productivity that the world economy has ever seen (except for that pesky Black Death in the 14th

century), and Solitaire Till Dawn does its part to bring slacking at work to the Mac. By trying the 30-plus variations of this tried-and-true solo card game, you'll soon be wasting valuable time, too. For the more retentive card player, detailed instructions show how to play each game.

REQUIREMENTS: System 7 or later.

HOW TO USE: Just double-click the application, and start moving cards. Drag cards to new locations, or click on cards to move them. Pay attention to the rules.

15 DOUBLESCROLL

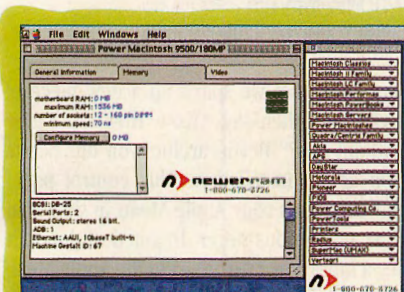
DEVELOPER: Edward Voas

TYPE: Shareware

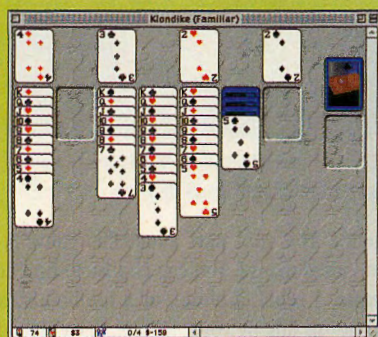
PRICE: \$10

CONTACT: <http://members.aol.com/ISysDev/index.html>

DoubleScroll is one of those control panels that add something to your system you think at first might be kinda neat but that you soon realize you can't live without. It places double arrows at both ends of all scroll bars in the Finder and applications. In other words, you can scroll both up and down from either the top or bottom of a window. In addition, DoubleScroll enables live scrolling, so you can watch the contents of the window as you scroll by. But wait, there's more—you also can use keyboard shortcuts to navigate the page. Installation is just what you'd expect for a control panel. Drop it on your closed System Folder, click OK when the System asks if it should put it in the Control Panels folder, and restart. When you open the DoubleScroll control panel, it asks you to personalize your copy—go ahead. Then

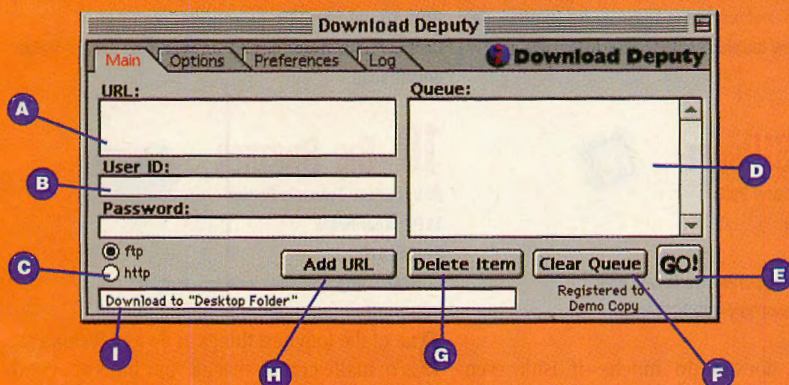


WANT TO KNOW all about your Mac? Visit GURU; it has all the answers.



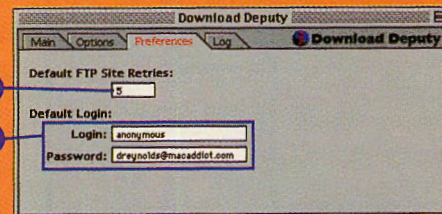
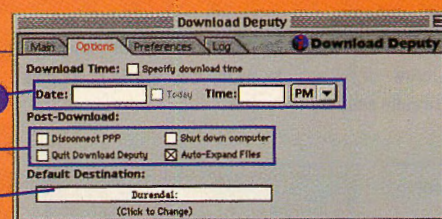
SOLITAIRE TILL DAWN will keep you up all night until you finally win a game.

18 Download Deputy



- A.** Enter your URLs here. Be sure to include the protocol (ftp:// or http://).
- B.** Enter your user ID and password here if they're different from the ones specified in the defaults.
- C.** Specify the protocol to use when connecting.
- D.** URLs are put in a download queue.

- Items in the queue can be edited by double-clicking them.
- E.** Click here to start your downloads.
- F.** Deletes the queue.
- G.** Deletes an item in the queue.
- H.** Adds an item in the URL; box to the queue.
- I.** Current download directory.



- J.** Schedule your downloads here.
- K.** Specify which actions you want to happen after your downloads are done.
- L.** Default download directory.
- M.** Number of times to try to download from a given site.
- N.** Specify your login information here.



you can turn the utility on or off, set scrolling and delay speed, enable or disable live scrolling, and set filters so that DoubleScroll won't try to run in programs that might not appreciate it.

REQUIREMENTS: System 7 or later

HOW IT WORKS: Drop the control panel into your Control Panels folder, and restart your Mac. You'll have double-arrow scroll controllers on your Mac windows, and you can control their behavior by opening the control panel and playing with its settings.

14 NEWER TECHNOLOGY GAUGE SERIES

DEVELOPER: Newer Technology

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.newer-tech.com/software.html>

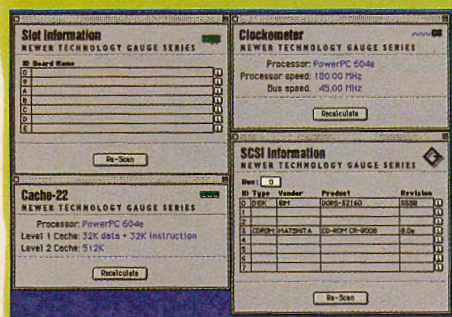


This collection of five free utilities from Newer Technology lets you check your Mac's processor speed and type, the amounts of Level 2 cache and RAM (including RAM error testing), your SCSI devices' addresses, and what expansion slots in your computer are occupied. You may say that this information is a no-brainer to remember, but wait until you're asked by a friend how much L2 cache is in his or her machine. You won't know for certain unless you run one of these programs.

REQUIREMENTS: Just about any Macintosh

HOW TO USE: Open the gauge in which you are interested, and press the button that comes up in its

window—if you want to. By the way, the Read Me files are quite amusing.



IF YOU'RE NOT SURE what's under your Mac's hood, Newer's gauges will tell you.

13 ESCAPE VELOCITY

DEVELOPER: Ambrosia Software

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.AmbrosiaSW.com>



Escape Velocity combines space combat, interstellar trade, and a good confederacy-versus-rebels story line complete with nearly invincible aliens. Players fly a ship on trade missions, making credits while exploring a region of colonized space. You encounter pirates, secret weapons stations, and mysterious and powerful alien



CONQUERING KNOWN SPACE is much easier if you're running Escape Velocity.

invaders. The cool part about this game is its open-ended nature. You can choose to be a confederate, a rebel, a pirate, or a freebooter, and you choose this by your actions. Start attacking confederate ships and accepting rebel missions, and you become a de facto rebel. Escape Velocity's plug-in architecture allows you to add new missions, ships, and a whole new look to the game, so it's difficult to get bored.

REQUIREMENTS: 256-color-capable Mac, 13-inch or larger monitor (recommended: 68040- or PowerPC-based Mac)

HOW TO USE: Install Escape Velocity, double-click the application icon, and prepare to dominate the universe. Be sure to know how the ship controls work before you start your adventure.

12 SCSI PROBE

DEVELOPER: Robert Polic

TYPE: Freeware

PRICE: Free

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3DSCSIProbe>



SCSIProbe doesn't do much—it isn't even Internet-ready—but what it does do is done exquisitely well. This control panel examines your SCSI bus and lists in its window any devices

that it finds. You can then either mount SCSI devices or reset the SCSI bus if a device doesn't seem to respond properly. SCSIProbe also closes device drivers for removable media after that media has been ejected. This can save major headaches for anyone who uses removable media initialized with different formatting utilities. But best of all, by clicking on a drive's number in SCSIProbe's window, SCSIProbe attempts to light the LED on the front of the drive—which lets you quickly identify which SCSI device is at which address.

REQUIREMENTS: Any Mac with a SCSI bus.

HOW TO USE: Although SCSIProbe can be used as an application, drop it in your Control Panels folder for the best effect.

11 BEHIERARCHIC

DEVELOPER: Fabien Octave

TYPE: Trialware

PRICE: \$10 (15 uses per session)

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3DBehierarchic>



It's not often that we spark up a new piece of software and then say, "Wow. How did I ever live without this?" BeHierarchic won our hearts as soon as we installed it. This control panel wonder organizes your Apple Menu in ways that Apple Menu Options never dreamed of doing. It creates a hierarchy (surprise) in the Apple Menu based on the kind of items there, from volumes and folders to files and applications, and that hierarchy is fully customizable. BeHierarchic displays more than five levels of submenus, it displays the proper icons in the Apple Menu listing, it has a Desktop Folder that allows you to navigate anything on your Desktop, and it lets you customize the look of your Apple Menu.

REQUIREMENTS: System 7 or later

HOW TO USE: Drop the BeHierarchic control panel in the Control Panels folder, and restart your Mac. Voilà!—instant organization.

10 BIG BROTHER

DEVELOPER: Francois Pottier

TYPE: Shareware

PRICE: \$10

CONTACT: <http://pauillac.inria.fr/~fpottier>



One of the toughest things to do as a Webmaster is to make certain that all your links are good. That's not a problem when you're dealing with only a page or two, but when your site climbs above 50 or so pages, well, that's a different matter. Big Brother watches over your links (not you, O paranoid one), and makes sure that links to other pages on your site and also links to external pages are good. The program displays the results of the link check onscreen, and you



8 Kaleidoscope



A. Selects your Kaleidoscope color scheme here.

B. Controls the color of window accents (such as scroll thumbs, shading, and so on).

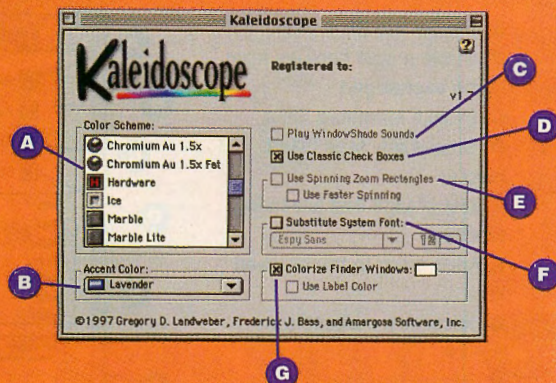
C. Turns on/off windowshade sounds. Disabled under Mac OS 8.

D. Changes appearance of checkboxes.

E. Turns on/off spinning zoom rectangles. Disabled under Mac OS 8.

F. Selects your System font.

G. Selects the background color of Finder windows.



can open each link to check it with your preferred browser. You can save the results as an HTML file, and Big Brother is scriptable.

REQUIREMENTS: System 7 or later

HOW TO USE: Just drag and drop the HTML file that you want to check onto the Big Brother application, and it will do the rest.

TYPE: Shareware

PRICE: \$20

CONTACT: <http://www.kaleidoscope.net>

As the joke goes around here, Greg Landweber could have delivered Copland's Appearance Manager before Apple could have. He proves his programming prowess with Kaleidoscope. Open the control panel, and you can change how

TYPE: Shareware

PRICE: \$15

CONTACT: <http://hyperarchive.lcs.mit.edu/cgi-bin/NewSearch?key=3Ddragthing>

If you've ever seen OpenStep, you'll note that all running applications get their own icon on the bottom of the screen. The application DragThing does much the same for the Mac OS, and yet it does so much more. DragThing creates floating docks that can hold applications, documents,

shareware



DOCK YOUR APPLICATIONS in DragThing's easy-to-use tabbed dock window.

folders, and even URLs—if you have InternetConfig installed. DragThing's docks (which resembles a tool palette) have three tabs on them, and you can have more than one dock open at a time. DragThing also has a process window, which shows an icon for each currently running application.

REQUIREMENTS: 68020 or later, System 7.5 or later

HOW TO USE: Open the DragThing application to get started. A tabbed dock will appear, to which you can drag documents, URLs, or applications for later launching.

9 STUFFIT EXPANDER, DROPSTUFF WITH EXPANDER ENHANCER

DEVELOPER: Aladdin Systems

TYPE: Stuffit Expander, freeware;

Dropstuff with Expander Enhancer, shareware

PRICE: Stuffit Expander, free; Dropstuff with Expander Enhancer, \$30

CONTACT: <http://www.aladdinsys.com>

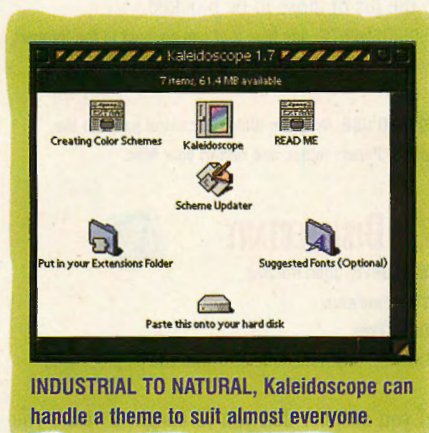


Yeah, we know, they're actually two programs, but they work so well together that they deserve to be mentioned together. Stuffit Expander by itself handles Stuffit and Compact Pro archives, and it can deal with files compressed in BinHex and MacBinary formats, both of which are the common results of Internet file transfers. Just drag an archived file on Expander, and it takes care of the rest. DropStuff, the shareware program, does the opposite; drop a file on it, and it will create an archive of that file. The reason DropStuff is worth \$30 is its Expander Enhancer addition. With this installed, Expander can also handle Zip, ARC, GZIP, Unix Compress, and UUencoded files.

REQUIREMENTS: Stuffit Expander: System 6.0.5 or later;

DropStuff with Expander Enhancer: System 7 or later

HOW TO USE: Run the installers, then drag and drop items to the appropriate icons to stuff or unstuff them.



INDUSTRIAL TO NATURAL, Kaleidoscope can handle a theme to suit almost everyone.

scroll bars appear and what colors windows are, choose a different system font or a different accent color, and add a color to Finder windows. Although Kaleidoscope comes with a decent selection of schemes, you can download a plethora of new third-party color schemes.

REQUIREMENTS: Color-capable Mac, System 7 or later

HOW TO USE: Just drop the Kaleidoscope control panel into the Control Panels folder, drop the Kaleidoscope Color Schemes folder into the Extensions folder, restart, and your Mac is ready for a whole new look.

6 BBEdit LITE

DEVELOPER: BareBones Software

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.barebones.com>



Oh, for those of you who work with plain text files—programmers, HTML wizards, those sorts of folks—BBEdit Lite is a real find. This text editor does what it was meant to do exceedingly well. BBEdit Lite opens text files and lets you edit the text. It performs search and replace across multiple documents, does pattern searching, allows live scrolling, shows balanced brackets and parentheses for programmers, does drag-and-drop editing, and includes a whole suite of text transformation commands.

REQUIREMENTS: System 7.0 or later (recommended:

System 7.5 or later)

HOW TO USE: Drag files to BBEdit Lite's icon, or open them from within the program. Use it as you would a word processor. Be sure to check out the documentation for more advanced features.

5 INTERNETCONFIG

DEVELOPER: Peter N. Lewis

TYPE: Public Domain

PRICE: Free

CONTACT: <http://www.quinn.echidna.id.au/Quinn/Config>



8 KALEIDOSCOPE

DEVELOPER: Greg Landweber



7 DRAGTHING

DEVELOPER: James Thomson





The single biggest pain in the butt about getting the most out of the Internet has to be configuring all your Net applications. How many times can you type your SMTP account without snapping like a dry twig? InternetConfig is one of those head-slappers that seems obvious in retrospect. With it, you enter your Internet configuration information only once. It handles email, FTP, newsgroup, and Web information, and also more obscure settings such as Telnet, Gopher, WAIS, and helper applications. Other applications then can take advantage of that saved information, saving you the trouble of re-entering all those server names and passwords.

REQUIREMENTS: System 7 or later (benefits from MacTCP or OpenTransport)

HOW TO USE: Run InternetConfig, and install the InternetConfig Extension from the application. Enter all your Internet settings, and restart your Mac.

4 Quid Pro Quo

DEVELOPER: Chris Hawk,

Social Engineering

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.socialeng.com>



i

AS INTERNET applications become more common, InternetConfig becomes more useful. If you install Internet Explorer and InternetConfig is already there, you're ready to surf.

3 WebFree

DEVELOPER: Steve

Falkenburg

TYPE: Shareware

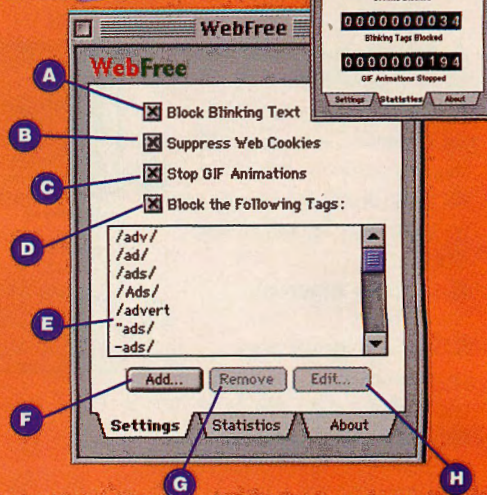
PRICE: \$20

CONTACT: <http://www.falken.net/webfree>



3 WebFree

- A.** Blocks the Blink tag.
- B.** Stops magic cookies from being exchanged.
- C.** Blocks animated GIFs.
- D.** Blocks any tags listed below.
- E.** List of tags that are being blocked.
- F.** Adds a tag to the blocked list.
- G.** Removes a block from the list.
- H.** Allows you to edit a tag.



Where would Web surfing be without ad banners, blinking text, animated GIFs, and cookies pummeling your Mac through the Internet's ether? A lot faster and less annoying, but that's obvious, we suppose. Steve Falkenburg must have thought so, too, when he wrote the WebFree control panel. When installed, you can block all of these annoying Web features. You also can select a new image to block in your Web browser simply by clicking and holding down on the image to be blocked. The resulting contextual menu allows you to add that image's tag to the list of those to be blocked.

REQUIREMENTS: Any Mac that can connect to the Internet, System 7.1 or later, MacTCP 2.0.6 or OpenTransport 1.1 or later

HOW TO USE: Drag the WebFree control panel to the Control Panels folder, and restart your Mac.

2 Disinfectant

DEVELOPER: John Norstad

TYPE: Freeware

PRICE: Free

CONTACT: <http://charlotte.acns.nwu.edu/jln/progs.html>



If you suspect that you've caught a virus, you can use Disinfectant to scan your hard drive, find the evil intruders, kill them, repair the corrupted files, and then set up a security system to ward off future attacks. Disinfectant also works on floppy disks, which is a real boon to anyone still using the mini storage devices. The program is one-click easy, and the documentation is clear and concise, though hardly necessary.

REQUIREMENTS: Pretty much any Mac

HOW TO USE: Double-click the icon, then click the Scan button. For more protection, install the Disinfectant

Extension from inside the application.

1 TechTool

DEVELOPER: MicroMat

TYPE: Freeware

PRICE: Free

CONTACT: <http://www.micromat.com>



As far as focused utilities go, not much comes close to the capabilities of TechTool. This program only does a couple of things, but it does them exceedingly well. With TechTool, you can rebuild your desktop, zap your parameter RAM (PRAM), clean your floppy drive, and check



TECHTOOL gets you out of trouble when nothing else can. It's worth the price—free.

your System. TechTool takes a different, more complete, approach to desktop rebuilding by deleting the desktop database and then forcing the Finder to rebuild this database from scratch. Similarly, TechTool zaps all of your Mac's PRAM, and not just the upper 64 bytes of PRAM that Apple's key combination zaps. By doing these two jobs well, TechTool has earned a place in many a troubleshooter's heart.

REQUIREMENTS: System 7 or later

HOW TO USE: Double-click the application icon, and choose a button to zap the PRAM or rebuild the desktop.

Despite birth order, Nikki, Dave, and Dan now are totally clear on the concept of "sharing."



COMMUNICATION



COMPRESSION AND TRANSLATION



DISK AND FILE



USER INTERFACE



CONFIGURATION



GRAPHICS AND SOUND



FUN AND GAMES



INFORMATION



PARADISE LOST...



Henrietta Emerson

Age: 64

Retired

DECEASED

Former charity worker and treasurer of the Wives of Foreign War Veterans. Killed tragically during anti-videogame violence protest rally.



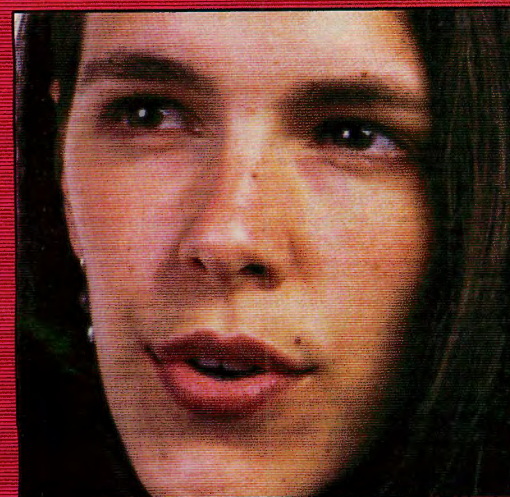
Ronald Wanker

Age: 52

Mental Health Technician

DECEASED

Employed at Paradise Psychiatric Center for 27 years. Fatally wounded by multiple bullet wounds.



Jennie Peters

Age: 17

Paradise High Senior

DECEASED

Majorette in local youth marching band. Death caused by 3rd degree burns inflicted by exploding napalm.

**KPAR
NEWS**

PARADISE, ARIZONA LIVE



PARADISE LOST...



What Went Wrong?

"Antisocial, psychotic, and completely irresistible."

PC Games

"It's bloodier than Monolith's BLOOD, and more explosive than id's QUAKE!"

PC Multimedia & Entertainment Magazine

"One of the most powerful game editors we've ever seen in an action game."

Computer Gaming World

"Sure, senseless violence is fun. But it's even more fun when it's directed at marching bands."

Computer & Net Player Magazine

KPAR
• NEWS •

PARADISE,

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AND THEY THOUGHT YOU WERE SUCH A NICE, QUIET BOY.

Welcome to Paradise ... Arizona.
They're out to get you ... or are they?

Conspiracy or Insanity? It doesn't matter, you don't have time to think, only time to kill. GO POSTAL!!

Blast, maim and fire-bomb your way through 17 unsuspecting locales. But don't get too crazy out here - strategy is key so take advantage of the third-person "premeditated" perspective that lets you see exactly who's cold and who's still able to pull a trigger.

- Brutal shooter/strategy combo challenges you to keep one eye on your target and the other looking over your shoulder at all times.
- Real-time 3D characters rage against beautifully hand-painted killing fields.
- So freakin' real, your victims will actually beg for mercy and scream for their lives!
- Multi-player network play over modem, LAN, or the Internet - so you can go Postal with up to 15 other Death Row candidates.
- Mass murder opportunities: spray protesters, blast marching bands and char-broil ostriches.
- Complete Game Editor included: no bull, this is it, the one we used to create the game. Create and manipulate characters, actions and personalities.

The Game Every Gamer Wanted
And No One Else Dared To Make



The Postal CD-ROM is available for PC and Mac.

Get them first at your local retailer, www.gopostal.com, or by calling 1-888-797-5867 and give them the code: "Firing Squad."

ARIZONA LIVE



POSTAL



Cut a Music CD in Your Own Mac Studio

By Steven Anzovin

The music business must be the last industry where you and a few friends can get together in a basement and create something that will bring happiness to the world—and make you all gazillionaires, to boot. Nowadays, however, the technical bar for music demos is a lot higher than it used to be. Squirrely sound recorded on a scratchy four-track just doesn't cut it with today's industry scouts (grunge being a passé, early-'90s kind of thing). Luckily, you've got the foundation for a first-class audio-CD recording studio right in your Mac.

In this article, we'll show you how to set up a basic Mac recording studio from sound equipment you can find in your local shopping mall. We'll explain how to get world-rocking sound into your Mac, then whip your tracks into shape for mastering onto an audio CD that will knock that A&R man's Air Madas off.

MIDI Primer

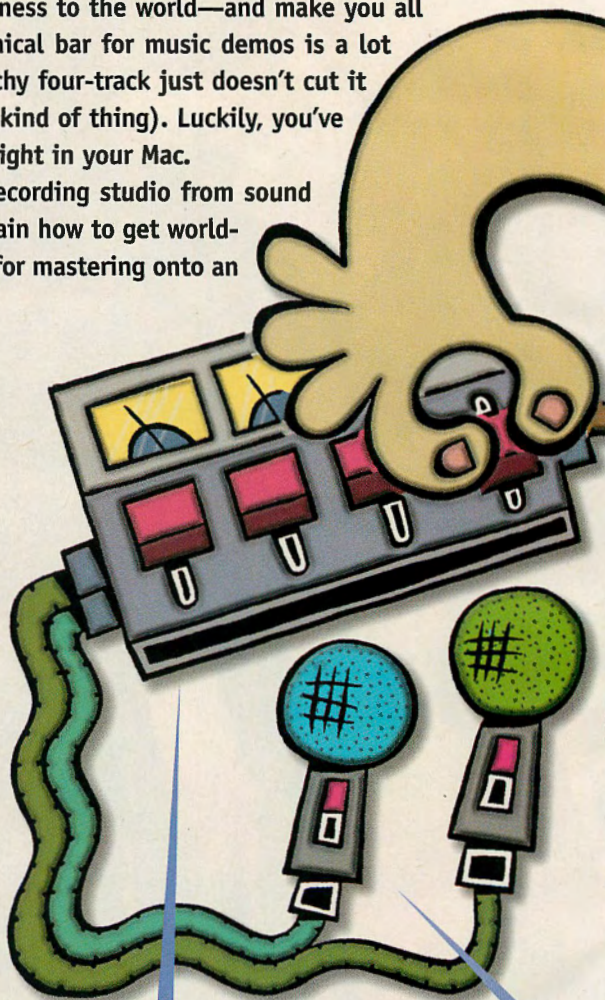
MIDI (Musical Instrument Digital Interface) is a communications protocol that allows electronic musical instruments to interact with each other and with computers. MIDI does not carry audio sounds or waveforms, just the instructions for making them. If you press a key on a MIDI keyboard, what comes out via the MIDI port is not the sound of a note but digital data about its signature, tempo, volume, and so on. This compact information can be passed quickly from device to device and read easily by a computer.

MIDI supports up to 16 tracks of note data. Each track can have its own instrument—piano, violin, fuzz bass, etc. However, unlike a digitized audio file such as an AIFF, which always sounds the same, MIDI data will sound somewhat different played on each MIDI instrument, because the sound you hear is dependent on that instrument's individual

sound-producing qualities.

To hook a MIDI instrument to your Mac, you need a MIDI interface, which is a small device that connects to the five-pin MIDI ports on the MIDI instrument and the serial port on the Mac. You also need a sequencer, software that enables you to record, edit, and play back MIDI tracks one instrument at a time. (Steinberg's Cubase VST is a sequencer and also works as sound recording and editing software.) Sequences generally are saved as standard MIDI files, which can be played back on any MIDI instrument or sequencer.

How do you play MIDI files on your Mac? Cubase and most other full-featured music editing programs can do it. You can also use Apple's MoviePlayer utility (version 2.1 or later) to convert a standard MIDI file into a QuickTime music movie. In fact, double-clicking on a MIDI file will generally open MoviePlayer and automatically perform the conversion.



A microphone mixer to combine and set the sound levels of input from microphones and other sources. Yep, Radio Shack sells those: the cheapest is the 4-Channel Stereo Microphone Mixer (about \$50, Cat. No. 32-1106).

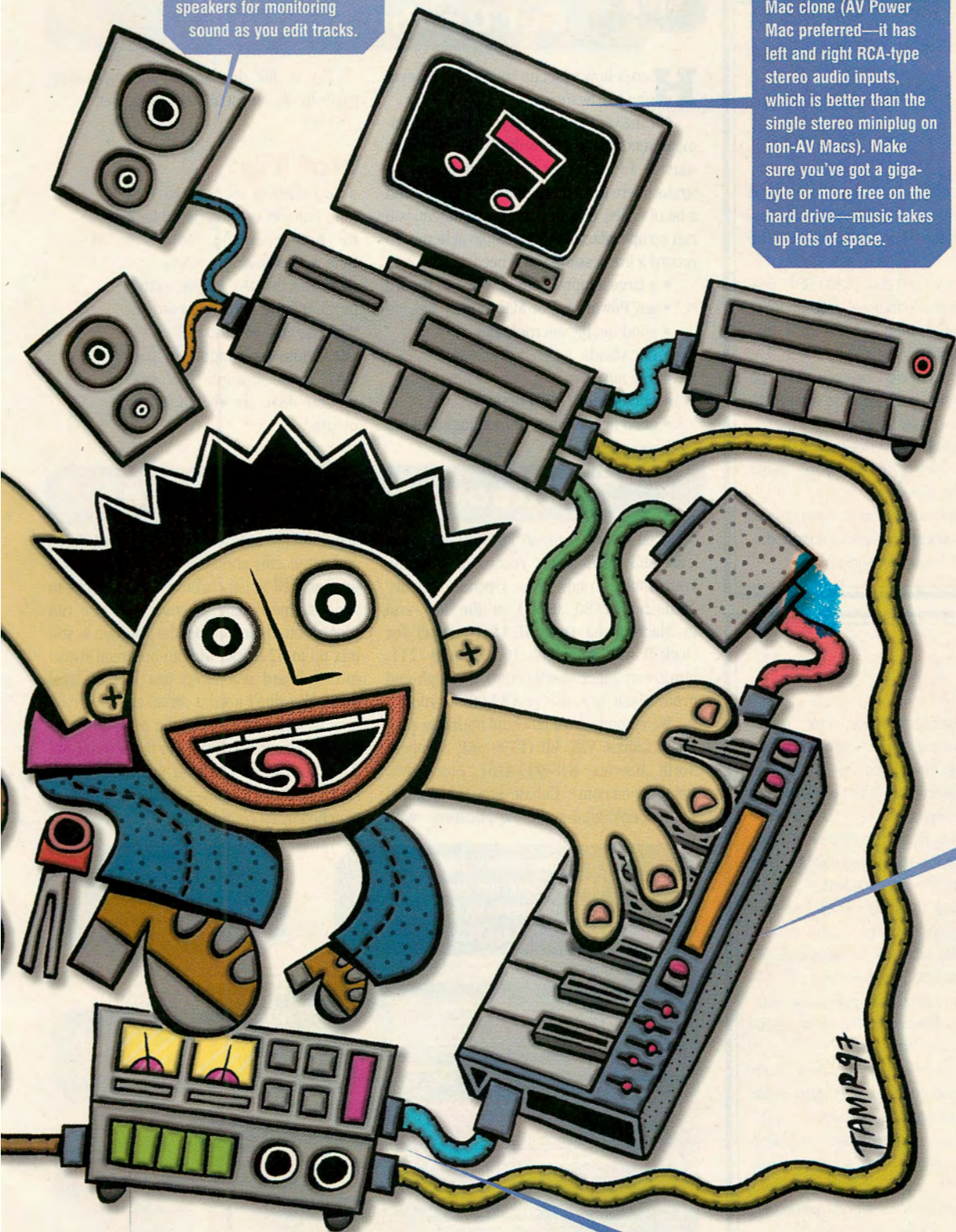
Good headphones or speakers for monitoring sound as you edit tracks.

Any Power Mac or Mac clone (AV Power Mac preferred—it has left and right RCA-type stereo audio inputs, which is better than the single stereo miniplug on non-AV Macs). Make sure you've got a gigabyte or more free on the hard drive—music takes up lots of space.

A MIDI music device, such as a keyboard or drum machine, jacked to your Mac's serial port via a MIDI interface box. (See "MIDI Primer," p44.) A good basic MIDI interface is the MIDI Translator Pro (\$80 street, Opcode Systems, 415-856-3333, <http://www.opcode.com>).

Mics for recording vocals and acoustic instruments. Shure, Sony, and others make good basic models for around \$50 or \$60. The Radio Shack Highball Dynamic Microphone (\$50, Cat. No. 33-984D), made by Shure, is widely available. Forget Apple's PlainTalk mic; it doesn't have the dynamic range to record music with decent fidelity. And don't plug a standard mic into your Mac; only Apple's mics work. Stands for each mic are necessary because if you hold a mic, you'll introduce noise by inadvertently moving. It's nearly impossible to hold a mic at exactly the same distance from your mouth during a whole session. Stands run about \$25 each (try Radio Shack Cat. No. 33-320A).

An amplifier to power up the signal from the mixer for input into your Mac's mic jack (or audio inputs on an AV Mac). The Mac's mic jack accepts mic-level, amplified input; a mic or mixer doesn't generate a powerful enough signal to be recorded with Mac software. The receiver from a stereo system will work if it has a full complement of inputs and outputs.



Six Tips for Direct-to-Mac Audio Recording

Audio recording works best if your Mac is not distracted by other activities. Follow these suggestions for the best results:

- Use an AV hard disk (7200 RPM preferred) with no thermal calibration.
- Clean everything off the disk and defragment it.
- Detach unneeded devices from the SCSI chain, and keep the total SCSI cable length as short as possible.
- Turn off all System extensions except those needed to run your audio recording software.
- Turn off file sharing, and close all programs except your audio software.
- Turn off Virtual Memory.

Beating the Buzz

Homemade recordings often suffer from unwanted hums. Here are a few tips to keep the buzz at bay:

- Keep volume levels at no more than three quarters.
- Eliminate possible sources of feedback: Disconnect earphones and speakers during recording.
- If possible, run the mixer and any other analog units on battery power, not an AC adapter—unbalanced AC power can add a nasty hum.
- Turn off any unnecessary AC-powered devices in the area, especially fluorescent lights.
- Use the beefiest gold-plated audio cables you can find, and keep cable lengths as short as possible.
- Ground any analog equipment, such as the mixer, with a grounding connector (run a bare wire from the mixer to the phono grounding connector on the amplifier).
- Use an equalizer, analog or digital, to cut out any stubborn hum frequencies. Cubase has a built-in equalizer.

If you're a virtual knob twiddler, Cubase's equalizer (EQ) will leave you ecstatic. Each track has its own EQ.

Step 1

Set Up the Studio

Here's how to set up your audio recording hardware.

For the very best audio recording environment, rent time in a recording studio—prices start at \$35 an hour and head up to the stratosphere from there. But if you don't mind a bit of variety in your sonic environment, you can set up a Mac recording studio at home. To record a live session, you'll need:

- a large, empty room in which to record
- any Power Mac or Mac clone
- good-quality microphones
- mic stands
- mic mixer
- one or more MIDI devices
- good headphones or monitor speakers

Flip to the diagram on the preceding pages to see how it all hooks together.

Hot Tip:

If you want to record into your Mac from an existing demo tape for further editing, your job gets a lot easier. Hopefully, you recorded on DAT (digital audio-tape). It's the only tape medium that has the sound quality of a CD. Route the outputs of your DAT deck through the amp to your Mac as shown in the diagram.

Step 2

Choose Your Software

You're not ready to jam just yet—you still need music recording software. Your choices range from Opcode Systems' Audioshop (\$80 street) at the low end to Macromedia Deck II (\$419 street for Deck II with SoundEdit 16, 800-470-7211, <http://www.macromedia.com>) to high-end professional apps that cost \$3,000 or more.

We recommend a powerful midrange program, Cubase VST 3.0 (\$799 SRP, Steinberg North America, 818-993-4161, <http://www.steinberg-na.com>). Cubase is a professional sequencer/digital-audio application with

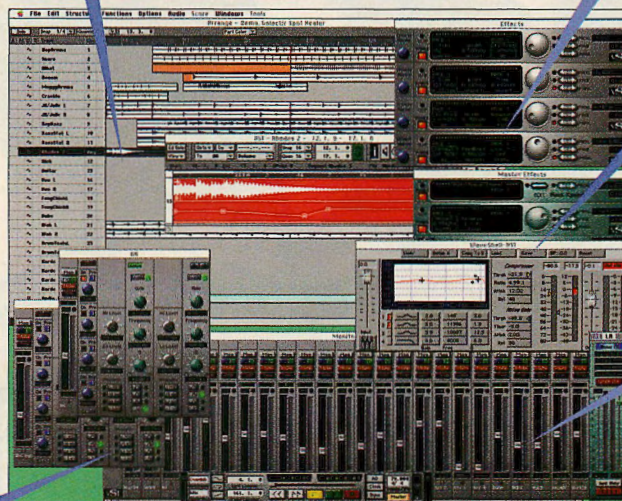
some unique capabilities. You can edit MIDI and waveforms and hear the changes in real time as well as synchronize music tracks to various time coding schemes. You also can record sound directly into the program as you mix up to 32 tracks with an onscreen virtual mixing board that looks just like the real thing. You don't need a digital-audio card as long as you are running the program on a Power Macintosh 6100/66 or faster with Level 2 cache. Expect to spend some late nights studying the manuals—Cubase's power is matched by its complexity.

The Arrange window contains Cubase's sequencer. A list of tracks runs down the left, while individual parts are shown as waveforms that can be rearranged at will.

Apply special audio effects, such as stereo pan, echo, and chorus, through the Effects panels.

Edit waveforms directly with Waveshell.

See the sound level of every track in the Monitors window.



CUBASE'S INTERFACE RETAINS THE LOOK AND FEEL of pro audio equipment. Sound wizards will feel right at home, though others may be confused by the profusion of virtual meters, knobs, and sliders.

Step 3

Record to Your Hard Disk

Time to cut some tracks. Get your audio up and running, then:

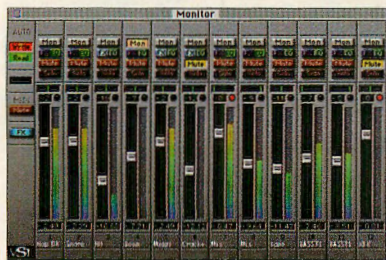
1. Open the Sound control panel (or the Monitors & Sound control panel, depending on which System version you use), and select the sound input you want to use. In most cases, this will be the microphone. Set the input level to three quarters, maximum. Also turn the Alert Sound volume to mute—you don't want to hear that during recording. These options are available also in the Monitors & Sound control panel under the Sound section.

2. In Cubase, open an existing song or set up a new song.

3. Create a new audio track, or choose an existing track from the pop-up list in the Track List.

4. Set the Record Status button in the Track Inspector to Enable. If you want to play the incoming audio through your Mac's speakers or headphones, also make sure that Monitoring is enabled in the Track Inspector and that the Global Disable Monitor option in the Audio menu is not checked.

5. Open the Monitors window by selecting Monitors in the Audio menu. If you've got some sound going in the studio, you should see action in the VU meter. If the clipping indicator is blinking, it means the sound input is louder than your system can comfortably handle without distortion. Adjust the

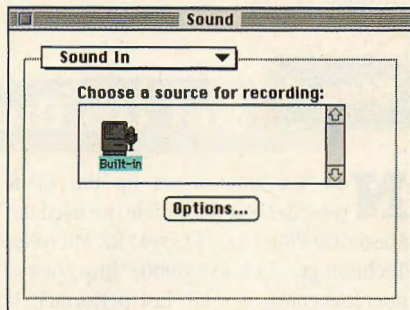


HERE'S WHERE YOU check the levels of audio coming into Cubase.

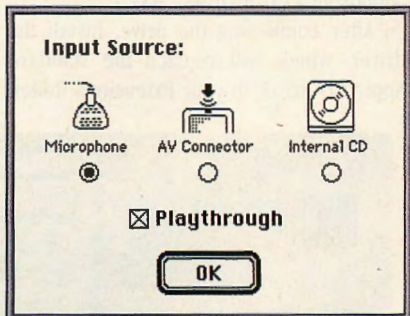
level of the sound source until the clipping indicator stays off.

6. Click the Record button in the Transport panel, or press the asterisk key. When you're done, press Stop.

You've laid down your first live audio track. You can record as many more tracks and segments as your storage space will allow, use Cubase's equalization and effects to play with them, then arrange them in the Arrange window (the sequencer). Have fun!



OPEN THE SOUND control panel and make sure sound input is set to Built-in.



CHOOSE AN INTERNAL sound-input option from the Sound control panel.



PLAY YOUR SONG and record new tracks from Cubase's Transport window.

Choosing a CD-R Drive

If you're shopping for a CD-R drive, there are three main factors to consider: drive speed, recording software, and compatibility.

Speed: Specs for CD-R drives cite two speeds: the recording speed and the playback speed. For example, a 2 x 4 drive records at 2X and plays at 4X. Currently, 6 x 6 drives are about the fastest you can buy. Faster drives are better, of course—a 2X drive masters a disc in 38 minutes, whereas a 6X drive takes less than 12 minutes for the same task—but they are also more expensive. Good bargains for 2 x 4 drives are available right now (less than \$600).

Software: A CD-R drive is only as good as its premastering software. Adaptec's Toast CD-ROM Pro (formerly published by Astarte) is the program of choice for the Mac—it's full-featured, easy to use, and has thorough documentation.

Compatibility: Some drive mechanisms don't support the less common CD formats. Enhanced CD, also called CD Extra or CD Plus, causes particular problems for some drives. Check with the drive manufacturer before you buy, and, after purchase, regularly check for updated drivers on the manufacturer's bulletin board service or Web site.

What's a CD-R?

Compact Disc-Recordable (CD-R) is the standard format for direct desktop recording of CDs and CD-ROMs. Most CD-R drives can create discs in all the most common digital disc delivery formats: CD-ROM, Photo CD, Compact Disc-Interactive (CD-I), Video CD, and Audio CD.

The secret of CD-R recordability is in the CD-R disc's characteristic gold coating, actually a multilayer deposit containing a recording layer of light-sensitive dye

covered by a reflective gold layer and a scratch-resistant protective top layer. A high-powered writing laser in the CD-R deck creates microscopic "marks" in the recording layer of the blank disc that mimic the pits in a pressed (silver) CD. The writing process is usually called "burning a CD," and that's not just slang; you can feel the residual heat from the laser action if you touch a recently burned disc. But handle them with care: CD-Rs are more fragile than ordinary CDs.

CD-R blanks are inexpensive (around

\$8), contain the same quantity of data as CD-ROMs (about 650MB), and can be played in any standard CD-ROM drive or player. That makes them an ideal data storage medium, except for one big limitation: The data you write is permanent.

If you know you won't fill up a disc in one recording session, you can format a *multisession* disc that can be written to over several sessions. You could, for example, write a 200MB session one day, then pop the disc back in the next day and write the remaining 450MB in a second session.

CD Format Coloring Book

You think Rhapsody with its Blue Box and Yellow Box is colorful? It's hue-deprived compared with the CD universe. Here's a chromatic guide to current CD formats, according to the cover colors of their published specifications.

Red Book: The original specification for audio CDs and the equipment needed to play them. Audio CDs can contain up to 74 minutes of 16-bit, 44.1kHz digital stereo audio. In other words, each audio sample occupies four bytes (two bytes or 16 bits per channel), and there are 44,100 samples per second of audio. Audio CDs are playable on nearly all compact disc equipment.

Blue Book: Specification for the Enhanced CD/CD Extra/CD Plus format, a multisession CD with audio tracks in its first session and a data track in its second session. Only the audio tracks are visible to an audio CD player; a CD-ROM player can also access the data session for MPEG video, still images, etc.

Yellow Book: Specification for the CD-ROM (CD Read-Only Memory) format. CD-ROMs contain data sectors formatted for one or more operating systems. You can format a CD-ROM for the Mac's HFS (Hierarchical File System); as an ISO 9660 disc, which can be read by Mac, Windows, and Unix machines but lacks support for Mac niceties like long file names; as a Mac/ISO hybrid disc, which can be played on various platforms but preserves the Mac interface when played on a Mac; and as a CD-ROM XA, which contains audio tracks in the first session and CD-ROM data in the second.

White Book: Specification for the Video CD format, which contains MPEG-compressed full-motion video for playback on special MPEG decoding systems such as CD-i players and some CD-ROM drives.

Green Book: Specification for the Compact Disc-Interactive (CD-I) format developed by Philips and playable on CD-Interactive equipment and some makes of CD-ROM drives.

Orange Book: Specification for Compact Disc-Recordable (CD-R), writeable compact discs that can be mastered in desktop CD-R drives.

Step 4

Create a Sound File

Once your track is edited, you'll need to save it to a file that can be burned on a CD. That's no problem for Cubase audio files, which are automatically saved as AIFF files, the industry-standard, high-quality audio format. If you've been mixing MIDI tracks, you've got to get the MIDI into audio (AIFF) form. To do this, play the MIDI tracks through your MIDI instrument, output them as audio via the instrument's audio out, and bring them back into Cubase in an audio recording session.

Here's a brief outline of how to get a Cubase song ready for premastering:

1. Mix down all the audio tracks to two channels, for stereo left and right.
2. Select Pool from the Audio menu to see the Audio Pool window, a spreadsheet of all the audio files in your song.
3. Choose the Prepare Master option in the Audio Pool's pop-up File menu. This takes all the audio files used in your song and extracts only the parts the song actually uses. The result is a slimmer, trimmer song that takes up no more disc room than it needs.

Step 5

Set Up the CD-R Drive

Now it's time to set up the CD-R recorder. For this article, we used the Master CD Plus 4 x 6 (\$1,099 SRP, MicroNet Technology, 714-453-6000, <http://www.micronet.com>), a solid, fast performer. It functions as both a recordable unit and a standard CD-ROM/audio CD player. (See "Choosing a CD-R Drive," p47.)

After connecting the drive, install the driver, which will replace the standard Apple CD driver in your Extensions folder.

Keep a backup of the Apple driver in case you need it. The new CD-R driver will also manage your internal CD-ROM drive.

You'll also need to install CD premastering software. The Master CD Plus comes with Toast CD-ROM Pro 3.0 from Adaptec (408-945-8600, <http://www.adaptec.com>), the most popular mastering software available for the Mac. Toast is up to version 3.5 (\$99 SRP), and it includes some new features worth checking out.



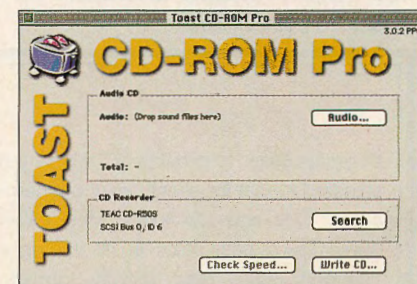
MICRONET'S MASTER CD PLUS is a solidly built 4X CD-R drive.

Step 6

Premastering

Once you've got your music into stereo AIFF files, and the CD-R recorder is up and running, the next step is premastering—creating an exact replica of an audio CD file on your hard disk for eventual transfer to a CD. With Toast, this is a simple drag-and-drop operation:

1. Choose Audio CD from Toast's Format menu.
2. Drag your song from the Finder into the window. If you have more than one song, make sure they are in the exact order you want them on the CD. You can drag them around in the window as necessary.
3. Click the Check Speed... button. Toast will run a preliminary check to see if your system is fast enough to write the disc. If you



THE TOAST MAIN WINDOW. The interface couldn't be much simpler.

can't write it at 4X, Toast will step you back to 2X. The result will be the same; it will just take longer.

4. Conduct a complete premastering test by

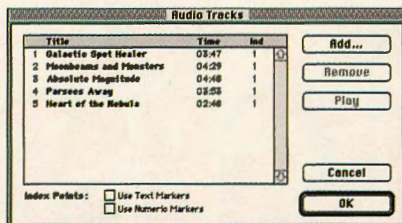
writing in simulation mode first. Choose the Simulation Mode option in the Write CD dialog that appears when you choose Write CD in the Toast main window. The simulation process will do everything exactly as the real mastering process does, except turn on the laser. If you've made any mistakes, they'll show up before you've sacrificed a blank CD.

Keep in mind:

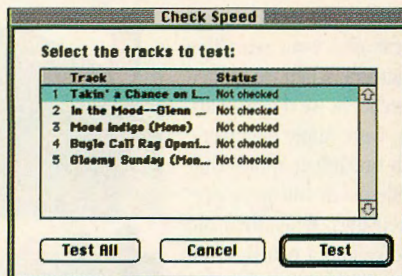
- Audio tracks must always be the first session on a CD; otherwise, audio CD players can't recognize them. If the first session is more than 625MB or 99 tracks, you won't be able to record a second session. (See "What's a CD-R?" p47) for more on sessions.)

- Make sure you've got roughly 10MB free on your hard disk for every minute of CD audio you want to premaster.

- Upping Toast's RAM cache will help to smooth out erratic data transfer rates. Choose Preferences from the Edit menu and set it to two times the drive's writing speed (the Generous setting). If you're using a 2X drive, the RAM cache will be set to 4MB.



DRAW AND DROP TRACKS from the Finder into this window, then arrange them to suit.



DO A SPEED CHECK before writing a CD to make sure your drive can feed data to the CD-R recorder fast enough.

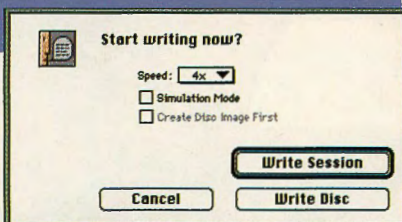
Step 7 Mastering

The final step is to master the audio onto a blank CD:

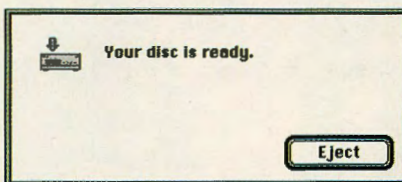
1. Load a blank disc into the CD-R drive.
2. Click Write CD in Toast's main window.
3. Choose Write Session (if you want to put additional sessions on the disc later) or Write CD (if this is the only session).
4. You're off and writing. The write could take half an hour or more.

Pop out the hot disc—your first gold record. It may not be your ticket to stardom, but at least it's evidence that you've paid your Mac audio recording dues. ■

As a boy, Steven Anzovin hung around in seedy nightclubs, spinning on the bar stools and whistling "Satin Doll."



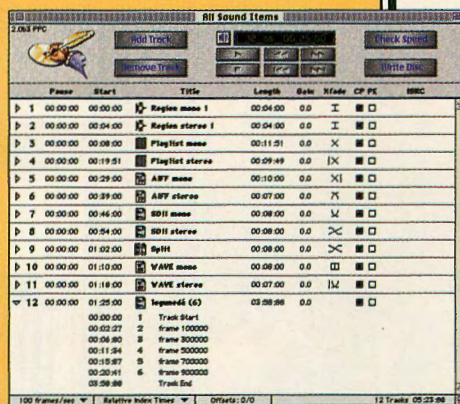
TIME TO WRITE TO THE DISC. This may take half an hour or more, depending on the number and length of your tracks.



YOUR DISC is Toasted!

Toast CD-DA 2.0

Toast CD-ROM Pro is fine for basic audio CD premastering, but Adaptec has a mastering program geared specifically to the needs of pro audio. Toast CD-DA 2.0 (\$149.95 SRP) adds features that give your disc professional polish, such as nondestructive cross-fades and level adjustments between tracks, and nonsilence gaps. (You can fill the standard two-second silence between tracks with applause, rude noises, etc.) Trimming functions make it easier to remove unwanted noise or silence at the beginning and end of a track. Toast CD-DA 2.0 supports WAV files and Split Stereo files as well as AIFF and Sound Designer II files (Digidesign's Sound Designer II is a high-end music recording and editing program). The program also batch-writes multiple CDs to autoloaders and transporters for high-volume mastering.

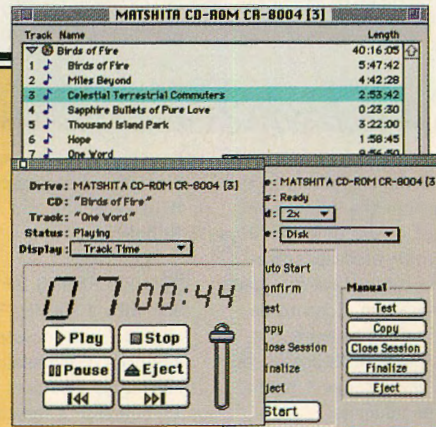


TOAST CD-DA 2.0 LETS YOU add sound in those wasted gaps between CD tracks.

Personal Hit Parade

Wish you could hear only your favorite cuts from your favorite artists without having to pop discs in and out and keep your finger on the Skip button? Sure, you could master your own custom greatest hits collections (subject to copyright restrictions, folks!) by capturing each track to your hard disk, then writing the files to a CD with your CD-R setup. But that's a time-sucking hassle that's probably more trouble than it's worth.

Although the product has been discontinued, Microtest (800-638-3497, <http://www.microtest.com>) came up with a better system that should appeal to any audiophile or DJ wannabe. Audiotracer automates the process of assembling tracks from various CDs onto one disc. Not only can you create custom drag-and-drop play lists, but Audiotracer supplies track tables of contents for 700 popular albums. Best of all, you can write directly from your Mac's internal CD-ROM player to a CD-R—no need to capture the tracks to a hard disk first.



LOOK, MA, no premastering! Make your own greatest hits collections with Audiotracer.



GeekITECTURAL SDigest

By Kathy Tafel
Photos by Ken Bousquet

We're curious about anything concerning our beloved Macs. We've gone over them inside and out. Suddenly, it occurred to us, "Who makes these things?" Never ones to pass up an opportunity to procrastinate, we hopped in a car and went searching through Silicon Valley, seeking Apple software engineers. When we spotted three cars in one driveway sporting Apple decals, we knew we'd hit payday.

At one point, all except Bob, the lone PC guy, were Apple engineers. Since the restructuring in March, Mike is the only one left at Apple. They were too tight-lipped to tell us anything about Rhapsody but were perfectly willing to tell us their story and show us their digs. When their old house in the Santa Cruz hills decided to take a dive into a nearby river, they knew it was time to look for a new home. There were only two requirements: It had to be close to their jobs at Apple's Cupertino, California, headquarters, and it had to hold all their gear.

They found this home in the Belmont hills, took one look at the view, and knew they'd found the right place. They called the landlady on a cell phone, and the deal was done. We were lucky enough to get a tour of this high-tech heaven.

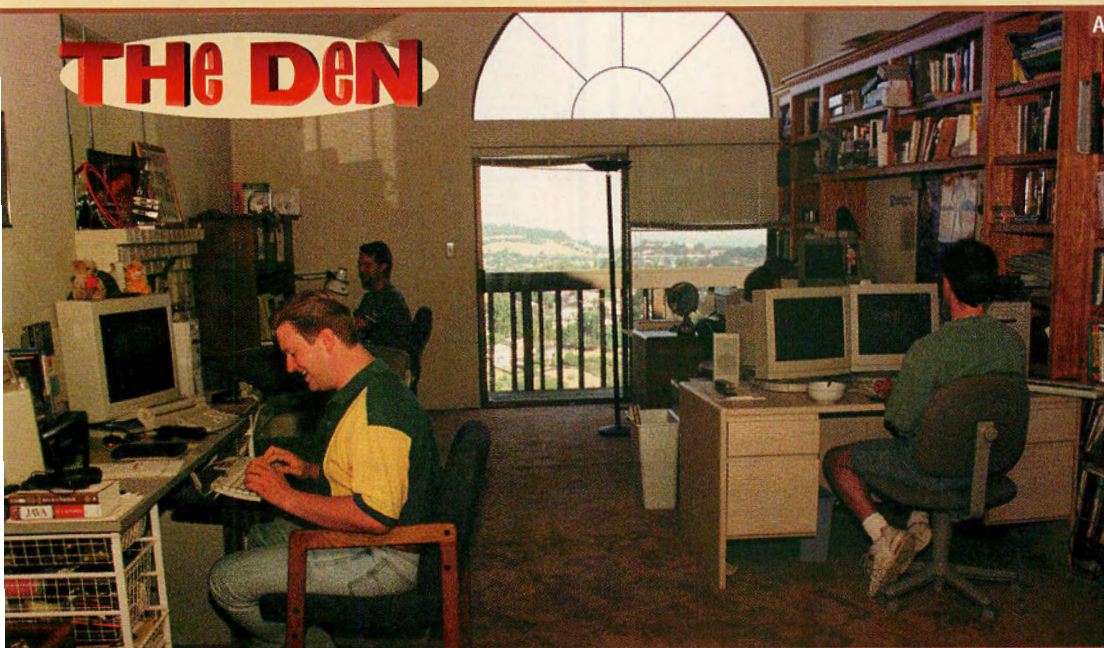


AS MIKE PUT IT: We wake up in the morning, look out the windows across the bay to San Francisco and the Bay Bridge, and say, "Gee, another gorgeous day in paradise. What a shock." (The MonkeyBoys, from left: Mike Kobb, Rick Mann, Christopher Cotton, and Bob Grosso.)



**FIND A
QUICKTIME
VR MOVIE
of the
MonkeyBoys'
living room
on The Disc.**

THE DEN



A. ONE HUNDRED FEET OF ETHERNET cable connect the computers in the den with those in the living room. Although most of the time the 'Boys have CodeWarrior fired up, sometimes you can catch them in a game of network Marathon. Soon to be added to the mix is an Ascend router to facilitate ISDN access, but for now they must connect to the Net with mere modems.

B. RICK'S POWERMAC 8500/180 is the most powerful desktop machine in the house. Plugged into it are two 17-inch monitors, AppleDesign

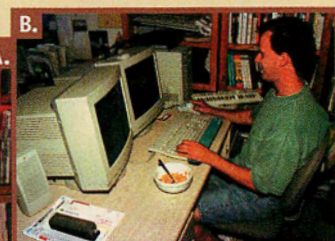
Powered Speakers, Apple VideoPhone camera, CyberSound MIDI keyboard, and a Kensington TurboMouse.

C. CHRIS BEEFED UP HIS QUADRA 800 with a 100MHz PowerPC 601 upgrade card and uses two 13-inch monitors. Peripherally, Chris hooked up an Apple LaserWriter 16/600 with a fax card (named MonkeyFacts) and a Color PageWiz Scanner.

D. MIKE HAS A POWERMAC 8100/80AV with an Apple 20-inch

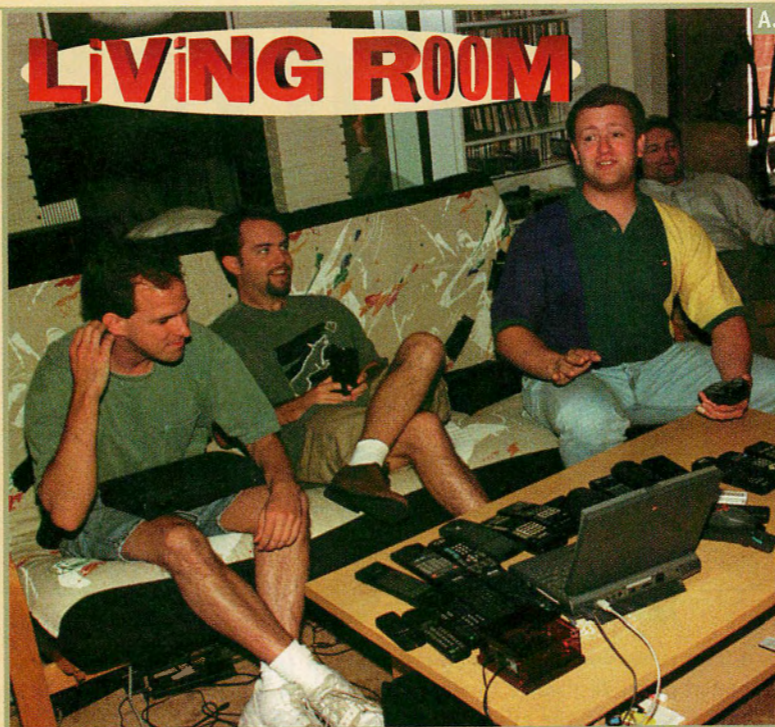
multiscan monitor and an Apple 13-inch RGB monitor. A VCR is connected to the AV input on the 8100 so that he can watch TV while working on the 20-inch screen. AppleDesign Powered Speakers and a ThrustMaster joystick and Weapons Control System round out his accessories. Mike has a private pilot's license and flies a T-6 World War II advanced trainer; he's still searching for the perfect flight sim.

E. EVEN THE CATS HAVE HIGH-TECH TOYS. Here, Taylor chases a laser light pen beam up the wall.



A. MIKE TRIES TO EXPLAIN why they need eight "universal" remotes. Additionally, Mike has programmed a Java applet on the 540c, which controls the infrared box connected to the serial port. We can understand why they go through a brick of AA batteries every two months.

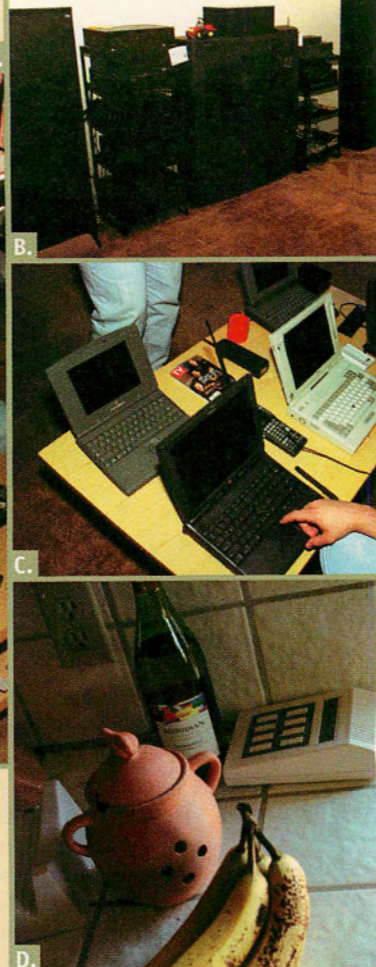
B. THIS IS WHY THEY "NEED" THE REMOTES. The home theater comprises Mike's five-speaker surround-sound system, rear-projection television, five-disc CD changer, preamp/video switcher/Dolby Pro-Logic surround processor, tape deck, five-channel home theater amplifier, 2,700-watt Subwoofer, VCR, LaserDisc player, Nintendo 64, Sony PlayStation (co-owned with Chris), and video switcher. Mike also has X-10 dimmer control of the lights via radio frequency remote and autonomous computer-programmed interface. Rick contributed a Sony DVD player and Sony AC-3 Processor, while Chris added the complete Red Dwarf series.



C. STARTING AT THE UPPER RIGHT and continuing clockwise is Mike's 540c, Rick's 3400, Bob's 133MHz Compaq, Mike's 3400, and Chris' Duo 280c. Rick and Mike have Ricochet modems for connectivity. Only the 540c has a permanent

home on the coffee table, as, according to Mike, it's "the best-looking PowerBook Apple ever made."

D. EVERY KITCHEN NEEDS an X-10 controller.



A. MIKE WOULD NEVER HAVE SOMETHING SO PLEBEIAN as a cable connecting his bass to the amp. This is a Nady wireless transmitter.

B. ONE ROOM IN THE HOUSE is devoted to storing all the boxes.

C. THIS HOUSE LOVES KITS. This space shuttle has a four-bar linkage.

D. ALL THE TALENTED MONKEYBOYS play an instrument. Mike owns a Michael Tobias Designs model 535 five-string fretted bass, Zon Legacy Elite I custom four-string fretless bass, Spector NS-2 four-string fretted bass, Steinberger XL-2DBA four-string fretted, Spector NS-2 four-string fretless bass, Spector NS-5 five-string fretted bass, as well as the piano and a Yamaha WX-7 MIDI wind controller (do you sense a trend here?). Bob strums an analog guitar, while Chris beats away at his drum set. He also has a Yamaha RX5 drum machine and a dk10 electronic drum pad. Rick is really playing "Chopsticks," but he uses his CyberSound MIDI keyboard to add sounds to his shareware game, Otru. (MonkeyBoys is a nickname chosen after watching the movie *The Adventures of Buckaroo Banzai: Across the Eighth Dimension*, in which John Lithgow's alien character shouts, "Laugh while you can, Monkey Boy!")

Kathy Tafel has half as many remotes per person at her house.



Mac Addict of the Year



big winner

1996



Photo by Aaron Lauer / Illustration by Tom White

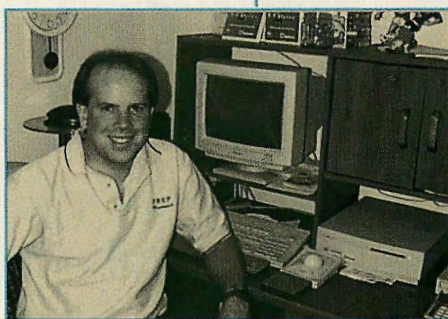
It's like buses: For a long time, you don't see a one, but then three come along at once. Yes, we've finally gotten through the mountain of materials, the pile of pleas, the Golgotha of "Gee, please!" and selected our choice for the Mac Addict of the Year. As testament to the quality and volume (that's amount, not loudness) of submissions, we've also chosen two Honorable Mentions for this august prize. When it all came down to it, our Mac Addicts are those who have done some truly useful things, and done good not just for the Mac but for the world at large.

AND THE WINNER IS...

Our 1996 Mac Addict of the Year is Mike Kerner. Mike began his Mac career at Ohio's Hiram College when a crowded computer lab forced him onto a Mac Plus. After whipping up a snazzy report with MacWrite, MacPaint, and a LaserWriter, he was hooked. In Mac love, he learned to hook up Macs, eventually building a Mac lab of a few dozen computers and LaserWriters. He even convinced the biology department to purchase a Mac II. He later hosted a series of seminars on HyperCard and the inner workings of Macs, and this in turn propelled him to a position as a Mac systems administrator. Not long after, he won the first ever comp.sys.mac.hypercard scripting contest. We're impressed.

All along, Mike was convincing others to use Macs, not only at grad school but at major corporations. He set up client-server projects for TRW's Law department, built the Mac-based Decision Support system for another company's marketing group, and continued to make Mac solutions more friendly for users and more compelling for managers.

Finally, he brought the cause home. His family company was using PCs, but soon Mike had the whole shebang running on Macs. He also has strengthened the Mac position in mixed-platform environments by creating a Java-based enterprise system. And not only that, Mike still does Mac consulting on the side and has convinced a whole gaggle of people to subscribe to *MacAddict*. All is now hunky-dory at the Kerner household, and a trail of happy Mac users leads up to it.



THE HONORABLE MENTIONS KEEPING SHARP

For most people, a diagnosis of Alzheimer's disease would be reason to give up. But when Dutch Schubert received the doctor's news, she decided to do something about it. To fight the memory lapses and speech problems, she went out, bought a Mac LC, and began working her way through the instructions. In about six weeks she found she could speak without losing words. A year later she took an introductory Macintosh class at a local community college, then followed that up with more classes. She also became involved with her local users group and was eventually invited to be on its board of

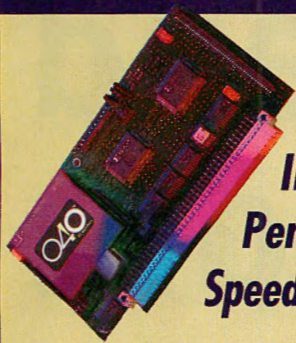
directors. Dutch now does all her bookkeeping on her Mac, regularly emails all her friends, and periodically downloads new software and learns its ins and outs, just to keep her brain sharp. We can't say that a Mac will prevent the progression of Alzheimer's, but Dutch's Mac-fatuation seems to keep it at bay, and she's dedicated to spreading the good news by donating her time at local senior centers, teaching residents how to use a computer (a Mac, of course).

TEXAS MACRANGER

Herman Roessler's name came to us through an admiring co-worker. It's not that Herman hasn't ever owned any computer *other* than a Mac (though that helps), it's that he's the voluntary godfather to the 600 Macs in the Lorena, Texas, school district. And it's not simply because he has nothing else to do—Herman is the principal of Lorena Middle School and is responsible for 350 students. Still, Herman is fast to the rescue when problems pop up with any Mac in the district. His co-worker swears that sometimes Herman's voice alone is enough to calm the wayward Mac. We can't testify to that, but we can testify to Herman's commitment to the Mac, especially in the face of outside pressure to place in the school computers running some "other" operating system.

We'd like to thank all those who sent in nominations, poems, pictures, fully developed applications(!), bribes (which we can't really accept, you know), and just general good wishes. We wish all you Mac addicts the best, and keep the faith. —Daniel Drew Turner

Run Your Mac Faster and Save!



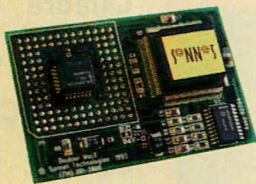
Accelerate Mac LC, LC II, Color Classic, IIfx, IIsi, IIfx, or Performa 600 to '040 Speed Starting at \$199

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II or Color Classic performance 470% as fast as a stock machine (processor performance, MacBench2). Use RAMDoubler or Virtual Memory to break the 10MB barrier with the Presto LC (except Mac LC, OS 7.1+ req'd). The Presto LC is only \$199, or with hardware Floating Point Unit (FPU) \$249.

The 80/40MHz version for the Mac IIsi*, IIfx, IIfx, or Performa 600 increases processor performance by 250-500%. The 80/40 MHz Presto at only \$299 includes a 128K level 2 cache, or \$399 with FPU.

All Prestos are 100% application software compatible and run through System 7.6. The Prestos are easy to install in the Macs' processor direct slot, and come with clear installation instructions. (*Adapter req'd IIsi)

Allegro's Fast 68030s Give New Life to Mac SE, II, IIfx, LC, LC II, Color Classic from \$99



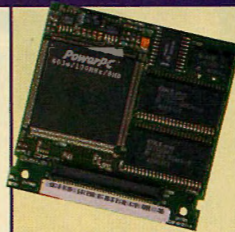
Give your older Mac more muscle. Sonnet Allegros™ are packed with features at bargain prices. The 33MHz Allegro LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU—all for only \$149. The 33MHz Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain \$199. Allegro Mac II, IIfx models double '030 speed to 33MHz for a mere \$99.



7300-9600 Upgrade 150MHz 604 \$199 200MHz 604e \$699 233MHz 604e \$999

Give your Power Mac 7300, 7500, 7600, 8500, 8600, 9500, 9600 a PowerPC 604/604e upgrade. These power-packed upgrades are 100% compatible with your existing software and hardware. Just plug one in and enjoy the productivity you deserve. Add a 1MB cache card and double your performance! *with card trade-in.

Wow! IMS Twin Turbo 4MB VRAM..... \$249



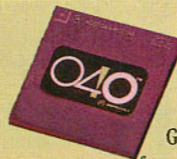
Upgrade Your PowerBook 520/540 to 100MHz 603e with 8MB Memory for \$399

This is the genuine Apple Computer upgrade designed to bring your trusted PowerBook 520/540 into the PowerPC generation with a speedy 100MHz 603e PowerPC processor. With this upgrade you can run all native PowerPC applications. Upgrade your reliable ethernet-equipped PowerBook to PowerPC, and prepare for the MacOS future. The upgrade includes 8MB of memory and is compatible with your existing RAM expansion board. *Price after a \$100 discount for trade-in of existing 68LC040 card.

Run the Fastest Quadra Ever! 100/50 MHz is Faster than 840AV



Plug the Sonnet QuadDoubler™ into a Quadra 610, 660AV, 700, 900, or Centris 610*, 660AV, 650 and run virtually twice as fast as before for only \$399. No software upgrades or changes are required. Just plug the QuadDoubler into your CPU socket and power up your Mac. A CPU extraction tool is even included to simplify installation. The QuadDoubler includes a Floating Point Unit for superfast rendering or calculations. A cache card is also available for the Quadra 700/900 for even more performance. *The Centris 610 QuadDoubler runs at 80/40 MHz and is value-priced at \$299 (without FPU \$199).



Add Math Coprocessor to 68040 Macs & PowerBooks

Give your Quadra, Centris, or PowerBook 520/540 a math coprocessor for rendering, Photoshop, CAD, or other Math intensive applications. 25MHz 68040 \$125*, 33MHz 68040 with heat sink \$169*. Add a full 66/33MHz 68040 with FPU to your PowerBook 520 or 540 for \$199*. This upgrade also speeds 520 to 66/33MHz 540 performance. Call for PB190, Duo280 or 68882 FPU. *68LC040 trade-in required.

Cache Speeds!

PowerMac with 1MB cache runs twice as fast as cache-less (200MHz 604e, MacBench 4). We build 'em. Resellers call for volume pricing.



256K	6100/7100/7200/7500\$49
512K	7200/7300/7500/7600/8500/8600\$89
1M	7200/7300/7500/7600/8500/8600\$159
256K	5200/6360/5400/5500/6400/6500\$79
512K	5200/6360/5400/5500/6400/6500\$149
1M	5200/6360/5400/5500/6400/6500\$199

**"The smartest
way to bump
performance!"**



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800-786-6260
<http://www.sonnettech.com>



VISA and MasterCard no surcharge. We used to have a surcharge; we don't anymore. Government, corporate and education P.O.s welcome. Tommy works diligently to process every in-stock order within 24 hours. You can wish her the best for her upcoming July wedding if you need to check an order status. One year limited warranty on all products. If you step on it and break it we limit the warranty, otherwise we don't limit it too much. All returns require an authorization and are subject to a restocking fee. ©1997 Sonnet Technologies, Inc. Sonnet, the Sonnet Logo, Allegro, Presto and QuadDoubler are trademarks of Sonnet Technologies.



This Old Mac: The Centris and Quadra

By T. Kelley Boylan



Photos courtesy of Apple Computer Inc.



The Centris series was Apple's top-of-the-line business models, ready for Ethernet and high-speed computing. Apple later renamed the series Quadra in an effort to simplify. The Quadras lasted longer and were essentially the same box as the Centris machines, only faster. There were nearly a dozen models:

Quadra 605, Quadra/Centris 610, Quadra 610 DOS, Quadra 630, Quadra/Centris 650, Quadra/Centris 660 AV, Quadra 700, Quadra 800, Quadra 840 AV, Quadra 900, and Quadra 950.

This article focuses on the mainstream 610 and 650 models, of which there were both a Centris and a Quadra. What's the difference? Remarkably little.

What You Have to Work With



The Centris 610 does at 20MHz what the Quadra 610 does at 25MHz. Other than processor speed, they're identical—with one important difference. The Centris 610 uses a 68LC040 microprocessor (which means it doesn't have an integrated FPU), whereas the Quadra 610 uses a full-blown 68040, which makes the Quadra

610 a good deal faster with math than the Centris 610. It's a similar situation with the Centris 650 and Quadra 650—the Centris 650 has either a 25MHz 68040 or 68LC040 (although most are of the 68040 variety), and the Quadra 650 has a 33MHz 68040. Everything else is essentially the same.

There are physical differences between the 610 and 650. The 610 has a pizza-box case: that is, small

and flat. It has room for only one add-on card (either NuBus or PDS), which usually requires an adapter. It has no room for an extra hard drive or CD-ROM drive. The 650 has a larger case with room for four cards—three NuBus and one PDS—and another half-height drive.

When upgrading a 610, don't spend more than \$100. It's just too slow. The same cost limit probably applies to the 650, but for that

amount, you can have a darn serviceable machine. A used Centris 650 doesn't cost much. With 12MB of RAM and a 230MB hard drive, expect to pay around \$400. Add RAM and an accelerator, and you have a machine that can't be beat for email, Web surfing, text handling, and general use.

RAM The 610 has two slots—room for up to 68MB of RAM. The 650 has four slots—room for up to 136MB of RAM, depending on the model. There are two 650 models: One shipped with 8MB of RAM soldered to the motherboard, the other with only 4MB. If you have the 4MB model, you can go only as high as 132MB.

The RAM itself for either Mac needs to be 72-pin SIMMs running at 80 nanoseconds (ns), minimum. Faster RAM is fine—a set of 70ns chips runs just as well—but it costs more. If the price is the same, the chips are the same, as far as the machine is concerned.

After years of SIMMs that had to be installed in pairs or groups of four, Apple engineers performed magic and dropped the requirement. You can add SIMMs in any quantity you like, one at a time or in groups.

The Centris/Quadra 650 (not the Centris/Quadra 610) and later models also can interleave RAM, making it faster and more efficient. That can mean a 10 to 20 percent speed increase (in special circumstances—don't expect to see it scrolling text). Interleaving occurs automatically when two SIMMs of the same size rest in adjoining banks. Simply put, SIMMs are happier working in matched pairs.

If you want to see where RAM resides on the motherboard, check out <http://www.megamemory.com/MacMemory/QuadraSeries/QuadraSeries.html> for a diagram.

Storage As with most modern Macs, the 610 and 650 are SCSI based. That means the internal drive is SCSI and can be formatted, initialized, and generally tweaked with Apple's standard HD SC Setup. You also can use FWB Software's Hard Disk Toolkit (<http://www.fwb.com>), La Cie's Silverlining (<http://www.lacie.com>), Charis Mac Engineering's Anubis

(<http://www.charismac.com>), or other SCSI drive utilities.

External drives attach via the SCSI connector on the back. To add a CD-ROM drive to a 610, buy an external drive, set the SCSI ID, and plug it in. You can add an external CD-ROM drive to the 650, but if you don't want extra cords, cables, and boxes on your desk, add an internal drive. Some 650s shipped with them, and any 650 can handle one. There's a bay inside into which anyone can put a CD drive (or a second hard drive).

Call the folks at your favorite storage vendor (see the back pages of *MacAddict* for vendors galore), tell them you have a 650, and be sure that they include a replacement *bezel*—the plastic panel on the front of the machine. You'll be replacing it with one that has a slot for CDs.

How hard is it to install a second storage device? Not hard at all. Just unscrew the single screw on the back of the 650, slide the case off, slip the drive into its cage from the front, and plug in power and SCSI cables. The bezel on the CPU case unsnaps, and the new one snaps in. Voilà! An internal CD-ROM drive.

Do you already own an internal CD-ROM drive and don't want to bother with the bezel? No problem. Just pull the old bezel and install the drive. It won't be as pretty as a properly prepared panel, but it'll work just fine. To order a bezel, contact your local Apple dealer.

Acceleration and CPU Speed

The faster, the better, and this is where an old 650 really shines. Believe it or not, an accelerated Centris 650 can run faster than a plain-Jane 6100 or even a slow 7100. Although it's no PowerPC (there were PowerPC upgrades for the 610 and the 650, but they were discontinued), the 650 is faster than you might think for an '040-based Mac. Remember: Until recently, most of the Mac OS wasn't PowerPC native, anyway.

Clock Chipping We covered clock-chip accelerators last month, and they come into play again today. With the 610 and 650, they make a bigger difference. An old '030 running a few megahertz faster doesn't seem much faster; however, an '040, faster from the

start, accelerates more effectively and really shows its stuff.

Macs run hotter at higher speeds, and they may need a fan or heat sink to keep cool. In our experience, it's only necessary if you're experiencing random crashes, even in a Mac with several extra cards installed. They're available from the same companies that make accelerators.

PowerPC Upgrades If a faster '040 doesn't cut it, you can always move to a full PowerPC. DayStar Digital used to make the PowerPro 601. It was discontinued, but the used market still has some. If you have a 610, you'll also need the PowerPro 610 Adapter. It came in 66MHz, 80MHz, and 100MHz models. Go for the 100MHz if you're going to do it.

DayStar's card turns your Quadra or Centris into something close to an 8100/100, with caveats. It's not approved for System software later than version 7.5.1. Why? It has been discontinued for some time.

Apple (<http://www.apple.com>) made a PowerPC upgrade, too: the Power Macintosh Upgrade Card. Original, eh? Naturally, this upgrade is long discontinued, but you can find some in the used market. You're literally turning your '040 into a 6100-class Mac.

Given how fast a clock-chipped '040 can be, it's probably not worth the trouble to go all the way to PowerPC unless you need to run PowerPC-only applications. Save up for a faster Power Mac. Keep upgrades to less than three or four hundred dollars, and remember, if you upgrade to PowerPC, you'll have to upgrade your applications, too. Otherwise, the speed jump falls off a cliff.

Video Any Mac of this era or later can use just about any monitor, meaning PC monitors. All you need is the right adapter, and both Sony Electronics and Griffin Technology make them. Visit Sony's and Griffin's Web sites (see "Hardware Sources") for their lineups. Any standard Mac monitor works, too.

Best of all, NuBus video cards are less than \$100 and let you do something PC users only dream about—run multiple monitors. Although a new PCI-based PowerPC

Hardware Sources

DayStar Digital
770-967-2077
<http://www.daystar.com>

MacGalaxy
800-662-9471
<http://www.macgalaxy.com/pages/store/store.html>

Video

Griffin Technology
800-986-6578
<http://www.nashville.net/~griffin>

Sony Electronics
800-352-7669
<http://www.sony.com>

Networking

Asanté Technologies
800-662-9686
<http://www.asante.com>

Farallon Communications
800-759-7761
<http://www.farallon.com>

Contacts

Newer Technology (800-678-3726, <http://www.newertech.com>) makes a simple, clip-on accelerator (about \$100) that speeds things considerably (part 7MC040-SC).

Sonnet Technologies (800-786-6260, <http://www.sonnettech.com>) makes accelerators as well. You can take a 20MHz 610 to 28.6MHz and a 33MHz 650 to 40MHz, plus add an FPU to the underpowered Centris 610.

Output Enablers (510-841-4883, <http://www.io.com/~oe>) makes a less expensive upgrade that takes some soldering skill. Prices range from \$40 to \$65.

KS Labs (800-450-0353, <http://www.msys.net/kslabs/products.html>) makes a clock-chip tool, too. For about \$60, you can clip on a simple accelerator.

More Sources for Old Macs

- Use your favorite search engine to search for "used mac".
- Subscribe to the newsgroup comp.sys.mac.forsale.
- Look in local newsgroups; e.g., yourcity.forsale.
- Peruse the phone book under "Computers, Used".
- Watch the newspaper's for-sale section.
- Ask around. You may be surprised by how many people have old computers stashed in the closet that they'll just give away.

Used-hardware Sources

Contact several vendors when you shop, and ask about warranties and return policies, just in case. This list isn't comprehensive, but it's a good place to start.

The Computer Exchange
800-304-4639
<http://www.compexch.com>

DataTech Remarketing
800-281-3661
<http://datatechrmkt.com>

GE Capital Computer Remarketing Services
<http://www.geremarketing.com>
800-431-7717

Hawke Business Systems
800-875-2610

MacResQ
888-44-RESCUE
<http://www.macresq.com>

Mac Sale International
800-729-7031
<http://www.macsaleint.com>

Pre-Owned Electronics
800-274-5343

Sun Remarketing
800-821-3221
<http://www.sunrem.com>

may have lots of speed, it costs more than \$50 for a NuBus Toby card to run a second monitor. (Toby NuBus video cards are the original 8-bit video card from Mac II days.) A second video card is the single best upgrade you can make to a fully functioning system. Your best bet for a Toby card is to look for one on the used market.

The aforementioned Toby card only displays in hundreds of colors (8-bit) at 640-x-480-pixel resolution (a 14-inch display), but that's fine for a secondary monitor. Once you have a second screen, you'll soon find you can't live without it.

To display thousands of colors (16-bit), the minimum for graphics without graininess, you'll need at least 1MB of VRAM for a 17-inch monitor. VRAM is available from almost any computer store and is easily installed. For ordering information and a diagram of the slot, see Mega Memory's Web site (see "RAM" section above for URL).

Networking All Quadra and Centris Macs have built-in LocalTalk, and many of them have built-in AAUI-15 Ethernet. You'll need an Ethernet transceiver to get this going on a 10BaseT network. If your Centris doesn't have Ethernet, consider buying an Ethernet card. Farallon Communications makes them, as does Asanté Technologies. Be sure to buy one with an RJ-45 socket (for use with a 10BaseT network); it's easier to handle. If you have a 610, you'll soon run out of space, so consider Asanté's Slotless Ethernet.

Need token ring? Shop for a card and plug it in. System 7.6.1 token ring includes drivers, so you don't even need extra software. See Farallon and Asanté for cards.

Software System 7.6.1 fits fine and works well, and any application that isn't PowerPC-only will run. An '040 accelerated to 40MHz is decent at running even Adobe Photoshop, given enough RAM.

Rendering isn't fast, but it is acceptable. Use Microsoft Office, standard Internet tools, and standard utilities such as Norton Disk Doctor, part of Symantec's Norton Utilities (<http://www.norton.com>).

Games An open book. The best sites to peruse are <http://www.mackedge.com> and http://www.tikkabik.com/mac_arcade.html. Even though many new games are PowerPC-only, there are hundreds of games that will run just fine—perhaps giving too much fun.

An accelerated Centris or Quadra can easily keep you going for the next several years. It won't fly like a Power Mac, but for text, email, Web surfing, and general computing, it's a bargain. Hold off on a Centris 610 upgrade; take a 650 as far as it'll go. ■

T. Kelley Boylan has co-authored several books and articles and is a Mac administrator when he's not writing. He owns and uses Macs exclusively.

Speed Changes

Apple played a Wintel numbers speed game with these Macs, making them sound faster than they really are. Ads may claim speeds from 40MHz to 66MHz. Apple doubled the processor's clock speed, but that didn't double the machine's speed. Actually, it doesn't make much difference because all of the I/O (input/output) is still at the standard 20MHz, 25MHz, or 33MHz. If you see an unaccelerated 650 advertised at 66MHz, rest assured it's only going 33MHz.

A 25MHz '040 may not sound fast, but given a non-PowerPC-native Mac OS and a speed bump, it's a peppy little player. If you have a Centris 610, get an FPU. It costs only about \$100 and is available from companies such as MicroMac Technology (800-600-6227, <http://www.micro-mac.com>) and Sonnet Technologies (see "Contacts").

The Short-lived DOS Card

A lot of people liked it, and many wish they had one, but Apple made only about 25,000 DOS-compatible 610s and discontinued the machine after only two months. Other than the DOS card, the 610 DOS compatible is the same as a standard 610.

Not All CPUs Are Created Alike

You may or may not be able to accelerate your Mac to the highest possible speed. Chips are rated for a particular speed when they come out of the factory, and like any rating, there's a fudge factor. A CPU that's rated for 25MHz may or may not run fine at 40MHz, and most upgrade makers supply several

speeds from which to choose. If your Mac isn't stable at the highest speed, back the speed down a notch and see if all's well. In a worst-case scenario, you may have to return the upgrade, so be sure your vendor has a return policy with no extra "restocking" charges.

Processors for the 610 and the 650 run as follows:

Centris 610	20MHz
Quadra 610	25MHz
Centris 650	25MHz
Quadra 650	33MHz

ALL BUT ONE OF THESE MODELS use the Motorola 68040 processor—the Centris 610 uses the 68LC040.

Fall Back to Savings

MicroMac Accelerator & Memory Upgrades

LC/LCII Power WorkStation

\$199



Call for
School
Pricing

Available for the LC and LCII (Performa 400/405/410/430), the Power WorkStation allows Ethernet and acceleration for faster Internet access. The Base Unit provides a 32MHz ThunderCache accelerator, a dual slot PDS adapter for an optional Ethernet card and room to accommodate three hard drives. Depending on your system needs, you can configure the Power WorkStation with Drive and Power Option upgrades (\$49 each) to upgrade your workstation with a CD-ROM, Zip or Optical drives and power supply. Finally you have the option to expand your low profile Mac into a high-performance desktop workstation suitable for desktop publishing, educational programs and accessing the Internet.

PowerPC 604 & 604e PowerMaster Accelerators

starting at
\$189



up to
233MHz

Available for PCI PowerPC computers, the PowerMaster accelerator features a fast 604 or 604e PowerPC processor running up to 233MHz. The PowerMaster is optimal for CAD graphics, high-end digital and video work, desktop publishing, graphic design and cutting edge Web technologies such as voice recognition/chat, video conferencing and interactive Web multimedia.

Compatible with PowerPC 7300, 7500, 7600, 8500, 8600, 9500, 9600 and most of the following Mac clones: PowerComputing®, PowerWave®, PowerTower® and UMAX SuperMac® 5900.

starting at
\$199

Mac II Series, SE/30 & LCIII Upgrades



starting at
\$149

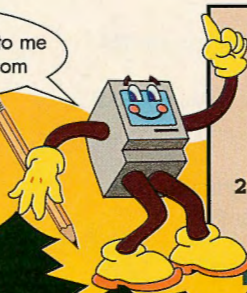


**NEW
90MHz!**

Available for the Mac IIci, IIsi, IIcx, IIx, IIvx (IIvi, Performa 600), SE/30 and LCIII, the DiIMO 030 accelerator offers fast 50MHz 68030 performance with an integrated 64KB onboard cache, Zero-wait state technology and optional FPU for processing power equivalent to a 25MHz 68040 based Mac such as the Quadra 610.

Available for the Mac IIci, IIsi, IIcx and IIx, the Carrera040 features a 66/33MHz or 80/40MHz 68040 (with or without FPU) or a new blazing 68040 at 90/45MHz (with FPU). The Carrera040 offers advanced processing performance for instant screen redraws, better processor performance and increased computing power for demanding Web tasks. Optional FPUs and 128KB Cache card available (66/33MHz and 80/40MHz models only).

Send upgrade questions to me
at mr.mac@micromac.com



MicroMac Technology

27121 Aliso Creek Road, Suite 125
Aliso Viejo, CA 92656-3364

800-600-6227

(714) 362-1000 • Fax: (714) 362-5428

www.micromac.com



reviews

Secrets of Virtual PC, the Java-based Coda, and—oh yeah—some Mac stuff.

Virtual PC 1.0

COMPANY: Connectix

CONTACT: 800-950-5880, <http://www.connectix.com>

PRICE: \$149 (street)

REQUIREMENTS (to run Windows 95): 100MHz PowerPC 601-based Mac, 24MB of RAM, 150MB of hard disk space, 256K of L2 cache, System 7.5.5 or later, CD-ROM drive

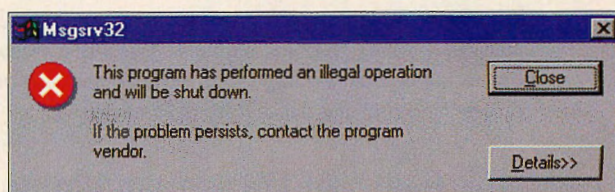
I've grown accustomed to keeping two computers on my desk. Front and center is my Mac, where 90 percent of my work gets done. Off to the side is a Pentium PC for specialized tasks: searching CD-ROM databases in DOS format, running a Windows Web browser, and playing PC-only games. The arrangement is awkward at best. Exchanging data between the Mac and the PC is a daily hassle, and I've thought often about replacing my Wintel box with a PC coprocessor board or Insignia's SoftWindows emulator. But coprocessors are too expensive, and emulation is too slow for gaming and graphics.

At first glance, Connectix Virtual PC looked like the solution to my problem: a low-cost emulator that was easy to use. Well, Virtual PC is all that, and though it isn't everything I need, it's definitely a must-have for any owner of a fast Mac who has dealings with Windows.

Virtual PC boasts the most comprehensive PC emulation available. It runs all x86 operating systems—DOS, Windows 3.1x, Windows 95, Windows NT, OS/2, and OpenStep—under the Intel Triton Pentium MMX chipset. The Windows 95 version (which most



WITH VIRTUAL PC, you can indeed see this in a window on your Mac...



...BUT SOONER OR LATER you'll also see this. It's Windows, after all!

people will order for its multimedia compatibility) comes with Windows 95 installed.

Easy installation is one of Virtual PC's best features. It literally is easier to install Win95 on your Mac than on a PC. Virtual PC creates its own disk partition—actually, it's a separate app that acts as the C: drive. You'll want at least a 300MB partition to hold Win95 and your software. The CD drive is D:, and you can set up drive F: as a shared folder for PC files that you also want to be accessible to your Mac apps. A fast-startup feature saves your Windows state when you quit Virtual PC. On your next launch, it pops you right back where you were—in seconds. SoftWindows has this, too—so why can't we have this for the Mac OS?

Basic services work more or less as you'd hope. Sound routes flawlessly through Virtual PC's Sound Blaster emulation (but you can't use the Mac's microphone to record into Windows). I was able to print directly to my HP Laserjet 6MP without even entering Windows' printer driver installer. Installing and configuring Microsoft Internet Explorer went as expected; I connected to my ISP with no unusual trouble. Networking, however, caused unresolved hassles, such as repeated error messages about a wrongly configured DEC 21041-based PCI Ethernet adapter card, although my Mac is not on an Ethernet network. (Virtual PC bases its Ethernet support on that card's protocols.) By the way, don't expect to pop Wintel PCI cards into your Mac and run them under Virtual PC, even if you install the necessary

Revving Virtual PC

YOU WANT WINDOWS PERFORMANCE? HERE'S HOW TO GET THE MOST FROM VIRTUAL PC:

- Add an L2 cache card, or install a bigger one. It makes a dramatic difference.
- Switch from internal video to a PCI graphics accelerator. Even an inexpensive card (less than \$150) yields a major speed increase.
- Allocate more RAM to Virtual PC. Windows runs faster with more memory, up to 32MB. Above that, the speed increase drops off.
- Switch from millions of colors to 256 colors, especially for games.
- Run with a minimal set of system extensions and as few Mac programs open as possible.
- Decrease RAM Doubler's memory multiplier (go from 3X RAM to 2X or 1.5X RAM).
- Run games under DOS, not Windows 95.
- Get a two-button mouse. It doesn't speed Virtual PC, but it definitely will increase your Windows productivity.



FREAKIN' AWESOME



SPIFFY



YEA, WHATEVER



BLECH!

Stealth Mac

Running Virtual PC is only one step toward crafting a Stealth Mac that can slip undetected into any Windows stronghold without arousing the suspicions of Apple-hating MIS goons. Here are a few more tips to help your Mac survive in a Wintel world:

Lab Mice That Apple keyboard and friendly one-button mouse are dead giveaways. Beef up your disguise with the \$125 MacAdapt, from Usar Systems. This little box lets you connect PS/2 keyboards and mice—especially ones that say Microsoft on them—as well as control panels, bar code readers, etc., to your ADB port. It even has an on/off switch, which PS/2 keyboards don't. Check it out at <http://www.usar.com/produser/protin/macf.htm>.

Switch Printer Printing from Virtual PC to any Mac-compatible printer is no sweat—if your Mac is already connected to it. Suppose you need to print to an ancient Epson 9-pin with nothing but a RS-232 parallel port. Most cable suppliers offer a Mac-to-PC printer cable, which is all you need when running Virtual PC. But you might want to print when you're stealthily running the Mac OS, too. Look into PowerPrint (\$149 SRP) from InfoWave (formerly GDT). PowerPrint (and its more expensive sibling PowerPrint Pro) enable Macs to use over 1,000 PC-compatible printers just like a Mac printer. Included are all the necessary printer drivers as well as a serial-to-parallel "smart" cable. The Pro version enables Macs to share a PC-compatible printer over a LocalTalk or Novell NetWare network. Get more info at <http://www.gdt.com>.

It's Your Pad, Man Ditch that free Apple mousepad for a Microsoft mousepad. Any PC store will be glad to sell you one. If you score one of the ultrarare "Bob" pads, consider yourself BBB (Blessed by Bill).

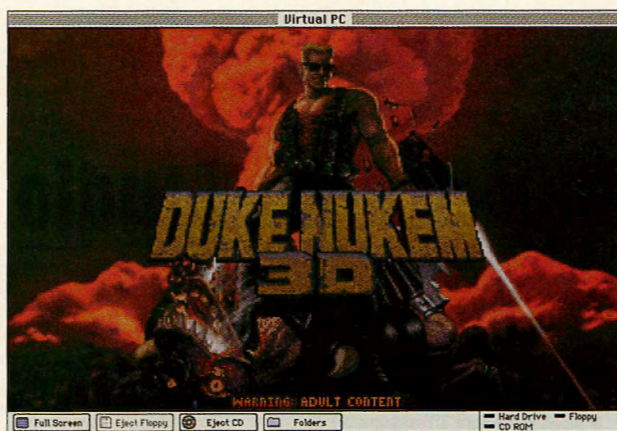
Stick It Microsoft, unlike Apple, does not distribute free logo stickers. But if you've got access to a label printer, you can easily make your own by grabbing the Microsoft logo off the Web or scanning it from the Microsoft Office box. Slap MS tags on everything that might otherwise arouse suspicion. At least stick a Dilbert cartoon over the PowerPC logo on the front bezel.

Windows drivers. Hardware compatibility is determined by what the Mac can support. One essential feature is not implemented: You can't cut and paste from the PC to the Mac, but you can go the other way.

The Win95 apps performed as expected, but if you depend on older mission-critical apps, you may have compatibility problems. Virtual PC keeled over right after I installed the wonky DOS DBMS shell I use every day. Restarting forced Windows into safe mode and brought on a string of illegal operation errors. In the end I had to reinstall Virtual PC and start over.

Possibly more problematic is Virtual PC's performance, or lack of it. Running Win95 under Virtual PC on my daily machine, a dowdy Power Mac 7200 120 with no cache card, brought to mind the word "glacial." At least Connectix is up front about the fact that you really need a fast 603e or 604e for bearable responsiveness. (See "Rewing Virtual PC" for ways to improve Virtual PC performance.)

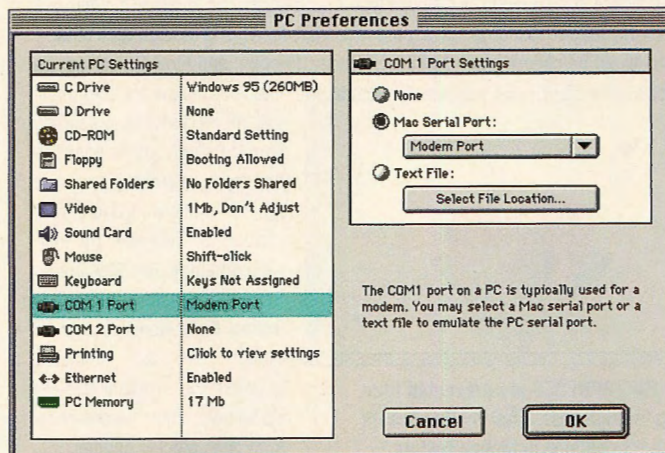
Of course, performance also depends on software. You had better have a fast Mac to run PC "twit" games. On the 7200, I checked out Duke Nukem 3D for the PC. It installed effortlessly into DOS, but the frame rate, even at the standard low resolution of 320 x 240, was maybe two per second. Demons were ripping into Duke before he had



RUN THE FAST-PACED DUKE and most other games in DOS for best fighting performance.

time to lift his freeze gun. However, the action picked up significantly when I dropped the colors down to 256, and even better when I installed DN3D on a 200 MHz 604e with 512K L2 cache, internal AV drive, and an 8X CD-ROM. The game was very playable, though not comparable to what you'd experience on the latest 266 MHz Pentium II machines. One reason: Virtual PC doesn't support 3D acceleration.

Windows NT 4.0 support means you can tag along where the high-end Wintel world is headed without having to give up your Mac. But emulation performance becomes even more of an issue here, because NT apps are generally designed for high-performance



SET COM PORT and other Win-type details in Virtual PC's Preferences window. You won't be able to configure Internet Explorer until you activate COM1.

Pentium Pro or Alpha processors. Forget running cool graphics software such as Kinetix's 3D Studio or Microsoft's Softimage (sorry, Raf!). Even a fast 604e doesn't have the muscle. But future ultrafast PPC processors may make NT-level graphics a reality on a Virtual PC-equipped Mac [Ed Note: on an early Arthur-based Mac, Virtual PC ran Windows95 at almost PC-normal speed.]. And now you can run any NT app that isn't graphics based.

All told, Virtual PC is the easiest, most cost-effective way to run Windows on a Mac. But it's not the solution to everything, so I'm not selling my Pentium just yet. —Steven Anzovin



GOOD NEWS: Easy installation. Good Wintel compatibility. Excellent value.

BAD NEWS: Requires a fast Mac and lots of RAM for responsive performance. May choke on older DOS programs. Networking incompatibilities. Cut-and-paste from PC to Mac needs work.



reviews

Ray Dream Studio 5.0

UNLIKE MOST 3D modeling programs, Ray Dream Studio uses only cameras to view your scene, projecting it onto a 3D grid.

COMPANY: MetaCreations

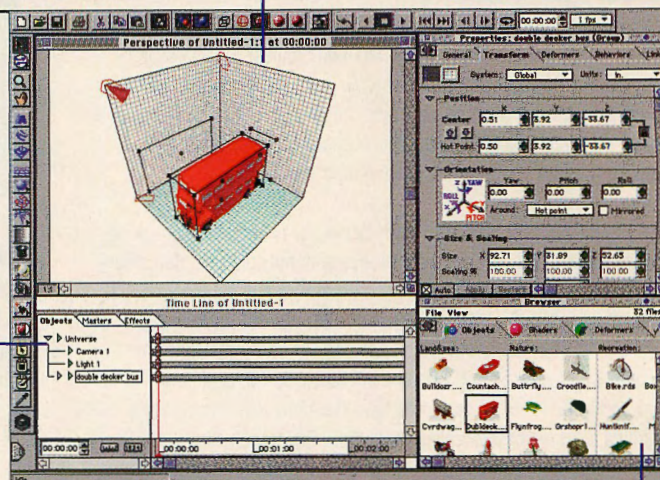
CONTACT: 800-297-COOL, <http://www.metacreations.com>

PRICE: \$499 (SRP)

REQUIREMENTS: Power Mac, System 7.0 or later, 24MB of RAM, CD-ROM drive, 24-bit display (recommended: 604e, 64MB of RAM or more, QuickDraw 3D accelerator)

Ray Dream has thrown everything but the kitchen sink into the latest version of its flagship 3D animation program, Ray Dream Studio 5.0. With features such as physics simulation, inverse kinematics, and 3D painting, Ray Dream Studio 5.0 rivals most high-end 3D programs in number and diversity of features. But Ray Dream Studio is not a high-end program. It lacks the speed and the level of control necessary for true high-quality production.

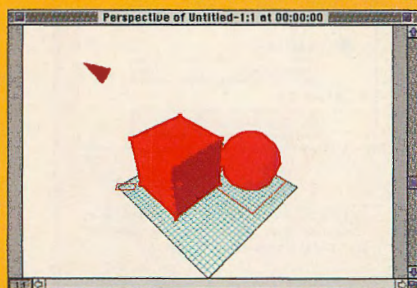
THE TIMELINE window shows keyframes and the hierarchy of animations.



Let's Get Physical

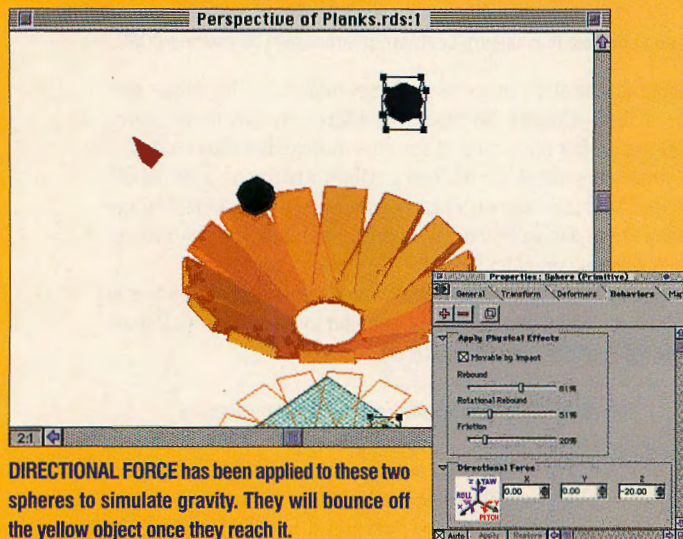
Dynamics comes to the Mac with Ray Dream Studio 5.0's physics simulation. The collision detection feature alone is worth all the hype that MetaCreations can lavish on it. When two objects touch, collision detection actually prevents them from going through each other.

Specialized behaviors (such as Initial Velocity, Friction, and Flow Force) can be used to simulate complex physical effects.



THESE TWO SPHERES are prevented from passing through each other by Ray Dream Studio 5.0's collision detection feature.

Vases automatically can fall down stairs, marbles can roll by themselves down a funnel—motions that are very difficult to animate by keyframing alone. But Ray Dream Studio's physics engine is limited. For instance, a domino effect can't be simulated because the program doesn't accurately pass momentum from one object to another.



DIRECTIONAL FORCE has been applied to these two spheres to simulate gravity. They will bounce off the yellow object once they reach it.

Ray Dream Studio 5.0's most important new feature is physics simulation, the ability to make a 3D object interact with its environment in a physically realistic way. This takes two forms: general collision detection for use in the 3D workspace; and specialized physical behaviors, such as elasticity and rebound, that can be applied individually to an object. With physics simulation, you can animate motions that would be nearly impossible to create with keyframe animation. Ray Dream Studio 5.0 is the only full-featured animation program for the Mac with this capability.

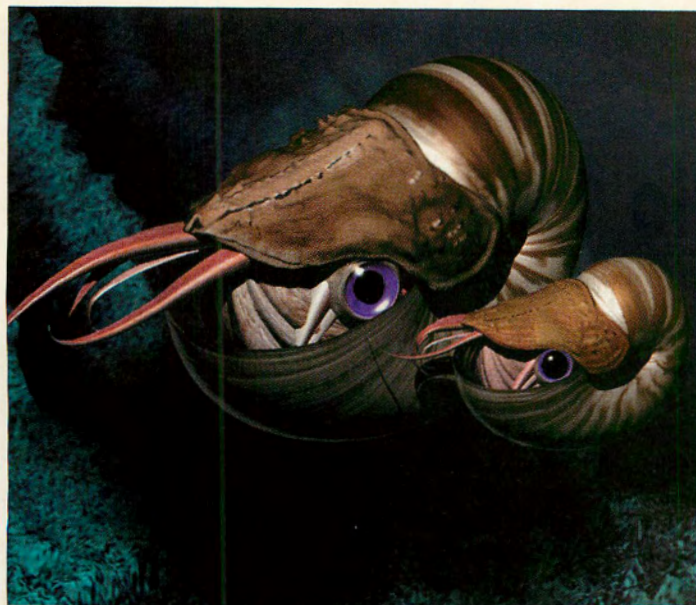
HERE ARE RAY DREAM STUDIO'S present elements. Save your own in this window.

If you've used other 3D programs, you may be disoriented at first by Ray Dream Studio's unusual workspace. Instead of giving you the standard front/right/top/perspective view, it displays a three-way grid with bounding-box projections of objects in the scene. Although this is not an inherently inferior way of showing object placement, it does have its drawbacks. For one, if you wish to see your scene from any of the standard views, you'll have to put a camera there yourself.

In addition to Ray Dream Studio's free-form modeler, which creates spline objects by extruding cross sections along a path, there's a new mesh-form modeler that lets you edit polygons and vertices individually or as a group. Deformers offer deformation effects without opening the modeler. In Ray Dream Studio 4, deformers could be manipulated only with numeric sliders. Now, they all can be manipulated directly within the workspace.

Ray Dream Studio also supplies one of the most important features to character animators: inverse kinematics (IK). Ray Dream Studio's IK is quite good, automatically setting keyframes for the intermediate objects in an IK chain. Although it was slow at times (even on a 200MHz system), it was easier to set up than many other IK systems. Ray Dream Studio's direct-manipulation tools allow you to adjust joint constraints without the usual trial and error.

Animation is controlled through the Total Control Timeline, and yes, it does give you just about total control, because almost all attributes have their own timeline. But the Tweeners, which control the motion transition between keyframes, don't give you the same fine control as velocity graphs or function curves in other 3D programs.



RAY DREAM STUDIO 5.0'S 3D PAINTING and vertex-level editing yield very naturalistic images. Here's a good example of texture mapping.

Ray Dream Studio 5.0's texturing abilities are strong. Both procedural surfaces and image mapping are supported and can be combined into Shaders, with a different image or procedure possible for each channel (bumps, specularity, color). Multiple textures can be mixed, with another texture used to dictate the

blend between them, then applied as *paint objects* to object surfaces in a variety of shapes. You also can draw directly on an object with a variety of brushes, but in practice, Ray Dream Studio 5.0's 3D painting was incredibly slow. Alpha channel support in image maps is still sorely needed for pro-level work.

Rendering in Ray Dream Studio is reasonably fast, and the quality is good if somewhat plastic-looking. In addition, the new natural-media effects impart a hand-drawn look to renderings. Redraw speed in the workspace is another story. Ray Dream Studio 5.0's own real-time rendering engine gives good interactivity with simpler objects but bogs down with more complex objects. Ray Dream Studio 5.0 feels very sluggish when working with large scenes, even on a 200MHz 604e.

All in all, Ray Dream Studio 5.0 provides a lot of 3D for a low price. The program's sluggishness has to be addressed, and a few very important features are still missing (velocity graphing and alpha channel masking for surfaces). But it's a good choice for 3D artists who can't afford ElectricImage Animation System or NewTek's LightWave 3D, or for an animator who wants to play in a physical world. —*Raf Anzovin*



GOOD NEWS: Physics simulation. Collision detection. Inverse kinematics. Vertex-level editing. 3D painting.

BAD NEWS: Sluggish redraw. No velocity graphing. Interface is sometimes disorienting.

ReBirth

COMPANY: Steinberg/Propellerhead Software

CONTACT: 818-993-4161, <http://www.steinberg.net>

PRICE: \$199 (SRP)

REQUIREMENTS: Power Mac, 66MHz or faster, 16MB of RAM, System 7.5.3 or later, CD-ROM drive

Now you can turn your Mac into a suite of vintage synthesizers: a drum machine, a distortion device, a mixer, and a sequencer. Without any expensive MIDI gear, interfaces, or software, you can design your own techno, industrial, or acid core masterpieces. You don't even need to know how to write music.

Now there's ReBirth RB-338 Techno Micro Composer, which is a computer version of two Roland 303 analog synthesizers and the classic TR-808 drum machine. The interface is exactly like the original hardware versions, except the computer performs the wave formation.

The drum machine offers 16 analog drum sounds. It's easy to set up a pattern—the 16 switches along the bottom of the interface represent one musical measure. Choose one of the drum sounds, and click the number beats you want to hear. Wild and original rhythms can be created just by selecting patterns that look good visually.

ReBirth's synth modules also use 16th notes. You can combine them in real or step time.



DOWN TO THE WOOD PANELING, ReBirth simulates the best audio hardware of the '70s, all in '90s software. MOOG freaks and techno heads, rejoice.

The really groovy part is that you can manipulate the synths as the song plays. Modulate the cutoff, resonance, and envelope and record your moves. Change the decay, pitch, and accent as though you had four hands. Then mix everything together, add distortion, and tweak the delay parameters. Your music can be saved as a native ReBirth file or as an audio file. —*Judy Munsen*



GOOD NEWS: Easy-to-use analog music system. Will sync to other MIDI hardware and software. Excellent documentation.

BAD NEWS: Won't run without the original CD in the drive.



reviews

GoLive CyberStudio 1.1

COMPANY: GoLive Systems

CONTACT: 800-554-6638, <http://www.golive.com>

PRICE: \$349 (SRP), \$100 "cross-grade" rebate

REQUIREMENTS: Power Mac or compatible, System 7.5.5 or later, 8MB of free RAM, 8MB of free hard disk space, QuickTime 2.5 or later, AppleScript

GoLive has overhauled its underpowered Web page builder (the lowercase golive), turning it into a "studio" that aims to provide not only pixel-perfect page layout but also Web site management. CyberStudio is packed with powerful features, but its idiosyncratic methods and steep learning curve can be frustrating.

The package's many palettes easily fill even a 19-inch screen. This is a shock, but there's a reason for it. To build a page in CyberStudio, you drag elements from a floating palette (named, simply, Palette) into the Layout tab of the document window. For example, to place an image, you drag an Image tag from the Body section of the Palette onto the Layout

you to color individual cell backgrounds and text, but you must color each cell individually, which can be a pain—literally, given CyberStudio's odd method of selecting colors. First you must check a Color checkbox in the Inspector palette and double-click the color swatch there, which opens the Color Picker. There, you must select a color (look hard for the 216-color Web-safe palette—it's tiny), which then you must grab from the Color Picker and drag to a little box on the Inspector palette. You must repeat this process for every cell. Page background color selection requires the same process.

If you feel tables are passé, turn to CyberStudio's Layout Grid. Dragging this element onto the Layout window gives you a resizable grid with snap-to options. Onto this grid you can lay out images, text, whatever, with a precision unavailable in tables. Our layouts reproduced well in both Netscape Navigator and Microsoft Internet Explorer. This precise layout came at the cost of easily readable HTML, though the code still wasn't as bloated as that produced by NetObjects Fusion

2.0. And how could I tell? Because CyberStudio allows you to view and edit HTML code within the application. Just tab the document window to Source, and there it is, with color-coded tags. Missing only are a spell checker and soft wrap (long lines require a lot of scrolling).

Perhaps what distinguishes CyberStudio most is its site management capability. Once you have all the elements of your site set up (e.g., graphics in proper format, all files in a final file structure), just drag the index file into the Project window, and CyberStudio imports the entire site. Then it builds a full site view, complete with all links. In the manner of Adobe SiteMill, it also checks for broken links (internal only) and, in some cases,

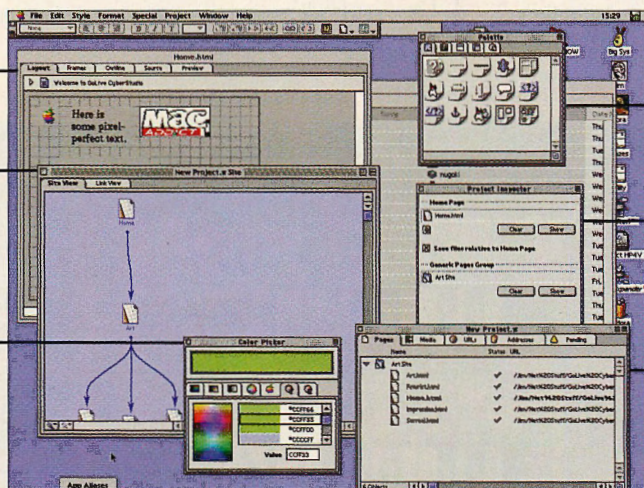
can repair them. Also, if you make any changes within the site—renaming a page or altering a much-used graphic—CyberStudio propagates the change sitewide, saving you buckets of time.

All in all, CyberStudio has much to offer. Sometimes it offers too much, resulting in a steep learning curve and some annoying quirks. And for all its features, it still doesn't free you from endless browser checks. Still, in a young field of Web site tools (Microsoft FrontPage and NetObjects Fusion among them), CyberStudio is easily my tool of choice. —D. D. Turner

THE DOCUMENT WINDOW tabs between Layout, Preview, and other modes.

THE SITE VIEW shows what's connected to what—and how.

THE COLOR PICKER contains lots of tiny color palettes.



MOVE IT ON OVER: You'll be practicing screen real estate management in order to use all of CyberStudio's features to their fullest.

THE PALETTE CONTAINS all the elements you'll want to drop onto your page.

THE INSPECTOR CHANGES according to the element selected.

THE PROJECT PALETTE is where you keep track of all your site's files.

section of the document window. Then you click the Browse button in the Image Inspector (a floating palette, similar to the Inspector palette in Adobe's PageMill). Also you can drag and drop the image file from the Finder or use CyberStudio's "Point and Shoot" method to link to a placeholder in the Project window. Flexible, yes, but a bit exhausting.

Adding to the screen-side complexity is the fact that CyberStudio's Frames window shows you the structure but not contents of frames, and the Preview window doesn't preview a framed page. It runs Java applets and any plug-in that a browser will support (though Shockwave causes rare conflicts) but, strangely, not animated GIFs. You still need to check your work in a real browser.

The way CyberStudio handles tables is more of a problem than in many WYSIWYG editors. To make a table, you drag and drop a Table tag from the Palette (unfortunately, there's no button or keyboard shortcut). To resize rows or cells, you need to Option-click on only the right side of the row or cell, then drag. CyberStudio does allow

GOOD NEWS: Powerful Web site management tools. Automatically checks links and warns of breaks. Pixel-precise layout generates clean HTML. Can edit HTML within application.

BAD NEWS: Steep learning curve. Often works in ways contrary to common sense. Hefty system requirements. Still must preview in browser. Screen hog.



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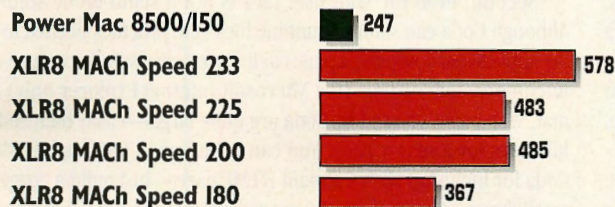


In Computer Years, It's Already Dead.

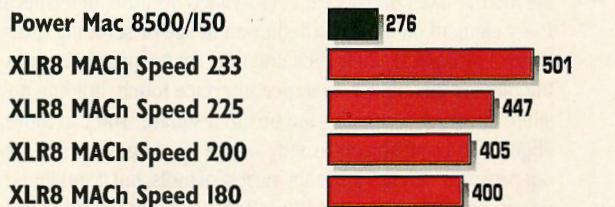
XLR8 = CPR For Your CPU

MacBench 4.0 Test Results

CPU Test



FPU Test



MacBench 4.0 results using Power Mac 8500, 16 MB RAM, on board SCSI, no hardware disk cache, 512K disk cache, running System 7.6. All products used in this test were shipping versions available to the public. All tests were performed by the XLR8 division of Interex. Ziff-Davis makes no representations or warranties as to the results of this test.



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reviews

Coda

COMPANY: RandomNoise

CONTACT: 415-437-0321, <http://www.randomnoise.com>

PRICE: \$495 (SRP)

REQUIREMENTS: Power Macintosh or compatible, System 7.5 or later, 32MB of RAM, 2MB of free hard disk space, Java Virtual Machine

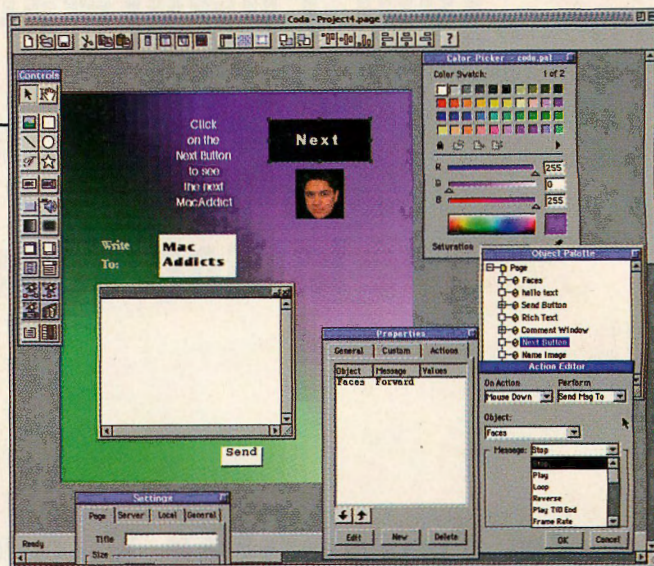
The word *ballyhooed* doesn't even begin to cover the PR buzz around the Java programming language. Platform independent. Portable. So, cries the real-world user, what do I get out of it? Just some little Web page animations?

RandomNoise made a leap of faith when it created Coda, the first general-use application written entirely in Java. You can run Coda if you have a Java Virtual Machine installed on your Mac (we ran Coda with no problems under Macintosh Runtime for Java (MRJ) version 1.0.2 and with speedier but less solid performance under MRJ 1.5b1). Coda does its best to masquerade as a normal application, all the way to giving you a splash screen upon launch. Once up and running (and in about the time it takes to launch Microsoft Word 6), Coda presents a face that will warm the hearts of page layout pros. There's a page (with a user-definable default height and width in pixels), floating palettes, and a floating toolbar. It even can show rulers and snap-to (or not) grids and guides.

Making a page is fairly easy. RandomNoise did an excellent job in creating a user interface that will be familiar to most graphics application users, and the overall learning curve is gentle. Click a tool in the toolbar-like Controls Panel (so-called because, in technical terms, every element on a page, whether an image or scrolling text, is a Java control or *object*), then click and drag on the page to make a bounding box for this object. In a nice interface touch, holding down Shift while dragging constrains the box to a square. You can move, resize, align, even layer objects exactly as you would graphics in a page layout program. There's a healthy variety of tools, but if you find you miss, say, an arrow tool, no problem. Because Coda is written in Java, the application is modular by nature. That means anyone with a basic (well, maybe more than basic) grasp of Java can create a tool, and integrating it into Coda is as easy as installing a plug-in.

The other advantage of Coda's Java nature (aside from the wealth of caffeine-related puns available) is that anything you build can be dynamic. In other words, nothing has to just sit there. A button can move, change appearance when the mouse rolls over or clicks it, and even send messages to any other element. The last is the most powerful benefit of creating a Web page in Java: Pages not only can be flashy but also can have added functionality. For instance, you can place a small "window" icon on your Web page that will pop up into a full window (into which you can enter text) upon either Mouse Enter or Mouse Down. A user could type in comments, which could be sent via a simple HTML Post command. This feature saves space and load times, and it's pretty cool, to boot.

Still, all is not sweetness and light in Codeland. Although its Java nature endows Coda with all these capabilities (Don't like Coda's Windows-like appearance? Replace all the appropriate Java class files and graphics, and it's got a new look!), that same nature makes



THE NEXT BUTTON, when clicked on, sends a message to the Flipbook object, which then displays the next *MacAddict* staffer's face.

regular and thorough use of Coda problematic. First, Java is far from a mature technology—not only is it shaky in heavy-use conditions (making it unsuitable for use in nuclear power plants, for example), but widespread acceptance is far on the horizon. RandomNoise implicitly acknowledged that limitation, positioning Coda as a Web page builder when it conceivably could work as almost any type of application, such as a replacement for Microsoft PowerPoint, on a Java-savvy system.

Second, even for Web use, Java is not a stand-alone solution. Although Coda can send its runtime files (the Java files needed to run the applets that comprise a page) to the user's browser in compressed, uncompressed, or CAB (for Microsoft Internet Explorer only) format, Web pages created by Coda are quite large—easily hundreds of kilobytes for a snazzy page. You can create small Java applets within Coda for inclusion within a plain HTML page—just build a "page" of small dimensions, and cut and paste the HTML tags Coda generates—but other, cheaper applications do a decent job of this, albeit lacking Coda's power. Also, many people browse the Web with Java turned off. Even though it's a simple matter for an astute Webmaster to write a Javascript that redirects such users to a non-Java page (and RandomNoise makes such a script available), this still means Webmasters must make multiple versions of a site.

Finally, there's Java's just plain weirdness—on rare occasions parts of applets won't work, or Coda itself will redraw a screen in a strange way. Being on the bleeding edge means sometimes you get a bit bloody.

Despite the its shortcomings, working with Coda is a joy, when not wrangling with Java issues. It's a good example of good design and offers a lot in an easy-to-use package. If this is the future, we could do a lot worse. —D. D. Turner

GOOD NEWS: Easy-to-use interface makes it a breeze to create pages. Adds unique features to a Web page. Easily extensible.

BAD NEWS: Java still isn't a mature technology. Most Web surfers won't access Java-only sites, so you must make non-Java versions of Coda sites also.



reviews



reviews

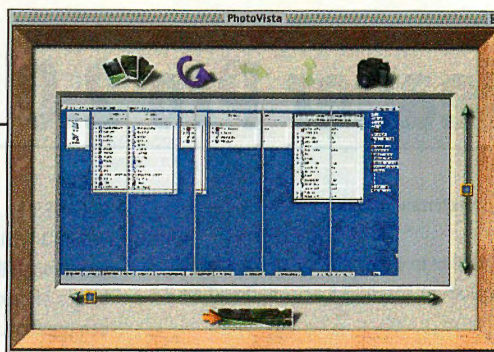
PhotoVista

COMPANY: Live Picture

CONTACT: 800-724-7900, <http://www.livepicture.com>

PRICE: \$79 (street)

REQUIREMENTS: Power Macintosh, System 7.5 or later, 16MB of RAM (32MB recommended), 8MB of hard disk space



PHOTOVISTA'S MAIN INTERFACE needs only five buttons to handle most of the program's functions.

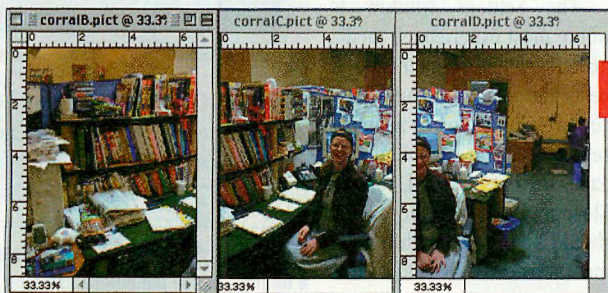
The idea of stitching together lots of photos for a QuickTime VR panorama never had much appeal. Live Picture's PhotoVista fills the gap between the creative impulse and the ability to carry it out by making it easy to create panoramas.

PhotoVista aligns a series of images or photos to form one continuous panorama (see below). Beats taping together a bunch of Polaroids. Just import the image files into PhotoVista, choose a lens (this controls the amount of image warping), and push the Stitch button. You'll soon have a panorama that you can save as a QuickTime VR panorama or in one of several other formats (including JPEG or BMP). Although the interface is simple, there are a couple of gotchas: Be sure to import your images in the order in which they should be stitched together (add them one at a time or name them sequentially), and give PhotoVista

plenty of RAM, especially for a large panorama. Read the manual for lots of valuable tidbits. PhotoVista also lets you alter your panoramas, mapping them to cubes or spheres (instead of the traditional cylinder). A panorama also can be saved as a screen saver, and if you have an Internet connection, a built-in FTP client lets you publish your panoramas in Live Picture's Panorama Gallery. Also, your panoramas can contain embedded VRML files, and the resulting image displays as it downloads—no more waiting for a huge file to come across the Net.

If you own a digital camera (or a scanner), you'll love PhotoVista. In fact, you'll probably be driving everyone around you nuts with pleas to look at yet another panorama of your bathroom. Nothing else does the same job as easily, or as cheaply.

—David Reynolds



GOOD NEWS: Takes the work out of making QuickTime VR panoramas. Handles lots of image types. Simple interface.

BAD NEWS: Must put images in order manually. Requires lots of memory for larger panoramas.



FIND A DEMO of PhotoVista and a few sample panoramas on The Disc.

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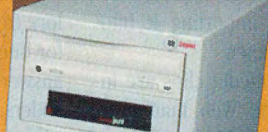
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reviews

Media Cleaner Pro 2.0

COMPANY: Terran Interactive

CONTACT: 800-577-3443, <http://www.terran-int.com>

PRICE: \$359 (SRP)

REQUIREMENTS: 16MB of RAM; 2MB of free hard disk space (for minimal installation), 140MB (for full installation); MacOS 7.5 or later; QuickTime 2.1

In its previous incarnation (as Movie Cleaner Pro), Media Cleaner Pro was the tool of choice for cleaning and compressing QuickTime movies for presentation, CD-ROM, and the Web. The new Media Cleaner is a decided improvement, with invaluable features that allow you to process a wider range of media more easily than before.

The big deal in version 2.0, and the one feature that movie makers need most, is batch processing. The program can automatically clean and compress up to 2,000 files according to built-in settings, or to settings you tailor yourself. You can save compression tasks for the end of the day and process overnight. All that's missing is a timing function that will automatically start batch processing at a set time.

Actually, you can do that timing trick, and automate any number of other tasks, with AppleScript, now that Media Cleaner Pro supports it. Check out the scripts posted at Terran's Web site. The best is one that has Media Cleaner monitor a folder for new clips, compress them, and move the compressed files to a "Done" folder.

How often have you slapped your forehead in frustration because you wanted to work on something, but your Mac was tied up compressing a movie? Media Cleaner Pro 2.0 now has the ability to suspend and resume compression without introducing

glitches into your media. Try that in Adobe Premiere!

Speaking of Premiere: The included export module plug-in for Premiere lets you compile Premiere projects directly into Media Cleaner. That avoids the time- and space-wasting step of separately compiling an uncompressed movie in Premiere and then importing it into Media Cleaner.

More media clips are in use on the Web than ever before, and Media Cleaner supports more Web formats too, including audio formats. You can generate RealAudio and RealVideo, AIFFs, ClearVideo, and VDOLive, as well as the usual QuickTime choices. The new 8-bit palette generator will speed movie playback with minimal

**MEDIA
CLEANER'S
WIZARD WHISKS
you through the
basics of media
compression.**

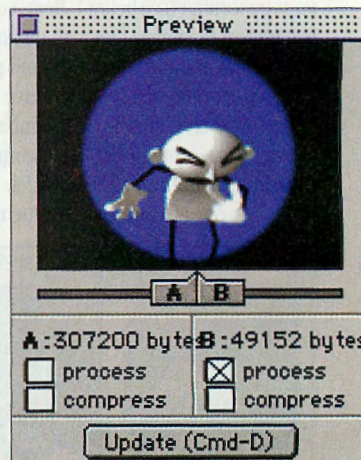
loss of picture quality. Want to compress your movie's soundtrack without recompressing the whole movie? Media Cleaner Pro does that, too. Plus, you can tag your movie with HTML for showing the QuickTime slider, playing the movie on completion of download, and other Web options.

The Settings window is where most experienced media makers will spend their time. It beats the standard QuickTime compression dialog by adapting settings to the capabilities of each format. Overall, Media Cleaner Pro's twiddle factor should be high enough for the most obsessive tweaker—for example, check out the new gamma, brightness, contrast, and saturation controls in the Dynamic Preview, which shows a split-screen, before-and-after view of your movie. Movie Cleaner incorporated this feature, but it works more smoothly now and gives you more information. The Adaptive Noise Reduction feature doesn't do much more than the similar tools in Movie Cleaner, but the earlier version's blurring and stray-pixel elimination were already top-rate.

My one gripe with this program is the wizard. Not that it's a bad wizard, as wizards go—you can pick up more practical compression

lore from the wizard screens than can be found in any book—but I for one would be just as happy to bypass all the polite question-and-answer stuff for the Settings window's seductive panoply of adaptive sliders. (Avoid the Wizard by dragging movies into the Media Cleaner icon—you'll open directly to Settings.)

If media is your metier, you need this tool. The \$129 upgrade is a no-brainer; the \$359 full price is a tad high, but struggle with Premiere's limited compression abilities for a while and you'll pay the money gladly. —Steven Anzovin



THE SMALL PREVIEW WINDOW makes it a bit hard to see the before and after effect of settings changes.

Batch Processing

QuickTime tedium, begone! If you're tired of compressing large numbers of movies one by one, Media Cleaner Pro can do them all for you automatically. And Terran Interactive has created one of the easiest batch processing routines I've seen. Here's how to whip up a big batch of movies:

STEP 1: In the Finder, Shift-select the files you want to batch process—movies or audio files—then drag them onto the Media Cleaner icon. Media Cleaner will launch and open a new batch file.

STEP 2: If all your media will be compressed the same way, select all the movies (Command-A) and click the Default button to choose a default compression from the Movie Settings box. Shift-select movies and double-click to apply settings to groups of movies.

STEP 3: Need a custom compression setting? Open the Settings window (choose Settings from the Windows menu) and twiddle away. Then save as a new Settings file.

STEP 4: Hit the Start button and away you go.

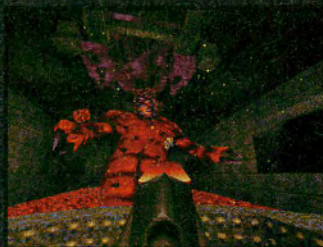


GOOD NEWS: Batch processing and AppleScript control. Wide support for Web and Wintel media formats. Plug-in for direct export from Adobe Premiere. More control over compression parameters.
BAD NEWS: Pricey if you're not upgrading.



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reviews

Astra 1200S

COMPANY: UMAX Computer

CONTACT: 510-651-4000, <http://www.umax.com>

PRICE: \$449 with Adobe PhotoDeluxe, \$625 with Adobe Photoshop (street)

REQUIREMENTS: 68030 or faster, System 7 or later, 8MB of RAM for PhotoDeluxe, 16MB of RAM for Photoshop, CD-ROM drive



THE ASTRA 1200S produces excellent scans at a good price and has a hip aqua-tinted hinge.

UMAX bills the Astra 1200S as “the mainstream business scanner,” and to us, that implies several things. The machine should be easy to set up and to use and should generate reasonable output quickly with default settings. Why? Because average businesspeople don’t find tweaking a scanner for hours on end to be fun (Mac addicts don’t either). For them, it’s a waste of time. So how does the Astra 1200S stack up? Very well indeed, especially because the box includes a long, Mac-to-Mac, 25-pin SCSI cable and a terminator. A cable may not sound like much, but if you’ve ever had to make a return trip to the local computer store to pick one up, you’ll appreciate it. And for small businesses, which may not buy SCSI devices often (or have an IS person around to remind the buyer to pick up a cable), including a SCSI cable can be the difference between a satisfying experience and—gasp—trying to get after-purchase customer service from a computer superstore.

The scanner was simple to set up and get started, although my box was missing the quick set-up guide (more on that below). The scanner is available in two versions, one with Adobe PhotoDeluxe and one with Adobe Photoshop 4.0. Both versions also come with NewSoft’s Presto! PageManager, an optical character recognition (OCR) and document management package. Billed as a “scanning operating system,” it automates OCR functions and allows you to store scans for later use, such as dropping scans into business fax software or email packages. Kind of a handy idea, but few people

do enough scanning to really see this package increase their productivity. The cool (and more useful) utility is “copy,” which scans and then prints whatever is on the bed.

The scanner has an optical resolution of 600 x 1,200 pixels, captures 30 bits per pixel (more

than enough quality for most applications—it’s better than the resolution of the scanners used at some full-color national magazines), and has a legal-size scanning area. A cold-cathode lamp ensures that as the scanner “warms up” during heavy scanning sessions, colors won’t wash out or become distorted. Like all UMAX scanners, the Astra 1200S features Bit Enhancement Technology (BET), a proprietary UMAX hardware technology that supposedly enables UMAX scanners to capture more colors and tones and to provide smoother histograms of color when scanning. You can’t turn BET off, so it’s tough to tell what the technology actually does, but the color and scan quality of the Astra 1200S is excellent. The scanner reproduced our colors well and preserved even small details. We did a lot of scanning in the default modes (as we suspect many business users do), and we were more than satisfied with the results. The Astra 1200S also is reasonably fast, taking about 75 seconds to scan an 8 1/2-x-11-inch sheet in color mode at 300 dpi. Grayscale scanning (done at 10 bits) also was quick (15 seconds for the same sheet) and of high quality. The TWAIN acquisition software isn’t the best we’ve seen (Epson still holds the high ground), but for the average, default-using user, UMAX’s software works problem free.

The scanning software comes on CD-ROM, as does the manual. A respectable savings of paper—and cost—for UMAX, but manuals on disc are always a hassle, no matter how well they’re done (and this one is done pretty well, with easy-to-follow directions throughout). The downside is, if the quick-start manual is missing from your box, as it was from ours, you need to install the CD to get the customer service number—which could be a problem if you need customer service because something is wrong with the CD. Still, our call to customer service asking how to set up the scanner was answered quickly and handled professionally, and if we really were the small real-estate shop we said we were, we would have had no complaints.

Without an option for a transparency adapter or a sheet feeder, this machine probably doesn’t fall into the hard-core professional scanner category. But for Web use, SOHO (small offices/home offices), or lower-intensity graphics users, this scanner performs well at a reasonable cost. The lack of a paper manual for scanning software is a disappointment, but if the trade-off is the included SCSI cable, we can live without it. —Chris Charla



NO, THAT ISN’T A REAL RACE CAR on the page, but the Astra 1200 almost makes it look like one.



GOOD NEWS: Excellent scan quality and color. Easy to set up and use. Good technical support. Comes with SCSI cable.

BAD NEWS: Lack of printed manual. Light software package. No options for transparency scanning or sheet feeder.

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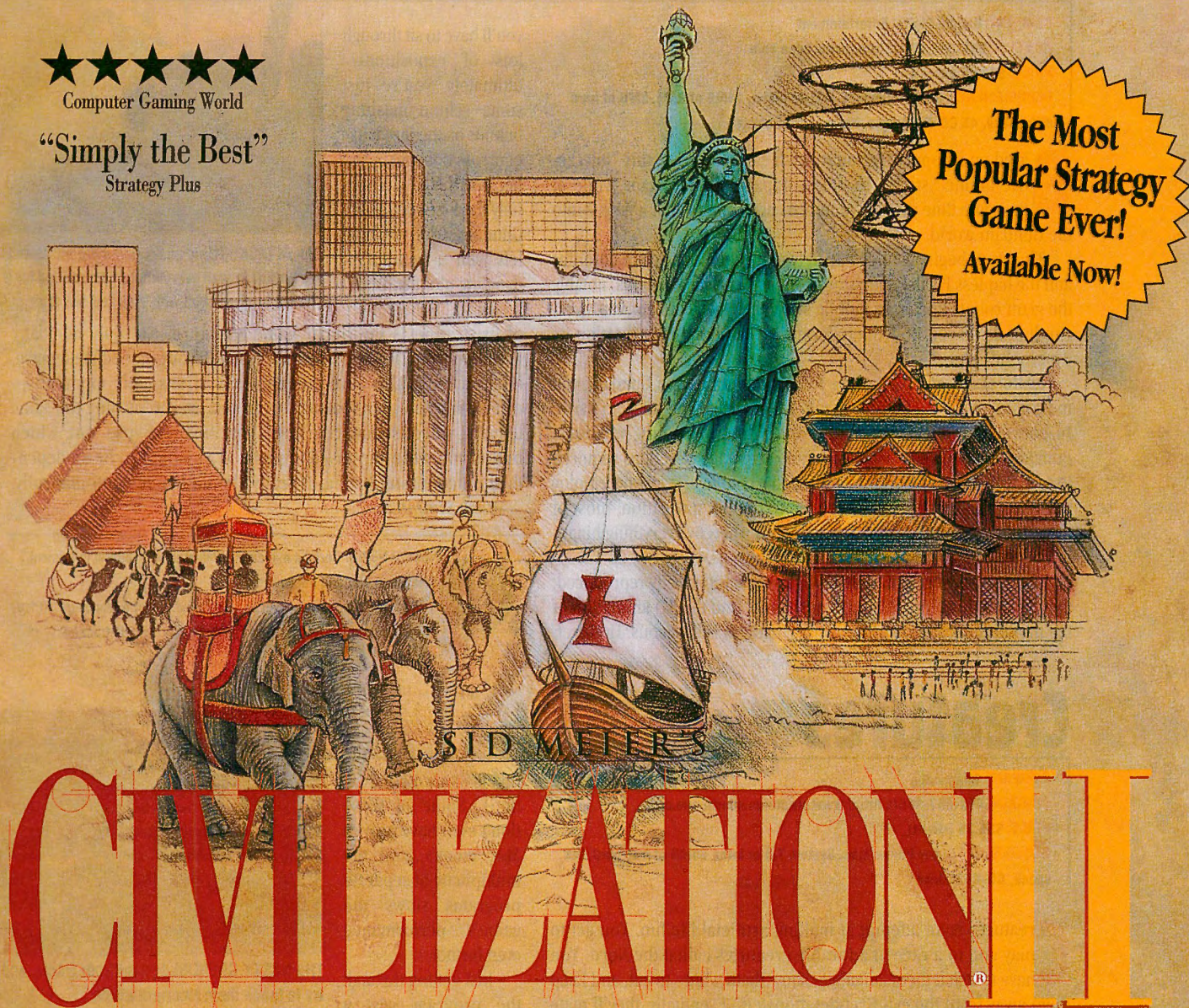
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System Requirements: Any 68030 or higher Macintosh with at least 8MB RAM, color monitor and CD-ROM drive. Also accelerated for Power Macintosh.

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reviews

Gundam 0079: The War for Earth

COMPANY: Bandai Digital Entertainment

CONTACT: 888-992-9000; <http://www.bdec.com>

PRICE: \$29.95 (street)

REQUIREMENTS: 80MHz PowerPC 601 or faster, 16MB of RAM, 5MB of hard disk space, 4X CD-ROM drive, thousands of colors

Based on a popular Japanese sci-fi cartoon series, this "interactive anime" strives to please Japan's diehard fans while at the same time provide American newcomers with a entree into the Gundam world.

The story begins with a war between rebellious space colonies and the hapless Earth Federation. With its futuristic weapons, notably the giant robots known as mobile suits, the Duchy of Zeon has overrun half the earth; now the federation's last hope is to develop its own mobile suits.

As the accidental pilot of the federation mobile suit Gundam, you must fend off the enemy and shepherd this prototype safely to Earth. In between animated segments, you battle by juggling weapons, punching buttons, and figuring out the sequence of actions required to save you and the federation. Although a couple of segments employ a shooting gallery-type view or QuickTime VR navigation, most of the gameplay proceeds in a linear fashion whereby everything hinges on hitting the right button.

The original series' cast and plot are nearly perfectly reproduced, the disc includes lots of background info, and the 3D animation of the mobile suits and other outlandish gadgets is gorgeous. However,

you'll have to sit through lots of exposition—ultimately, you're just some schmo mashing buttons on the Gundam's control console. And because this disc covers only the first third of the Gundam story, you'll be left with a handful of dangling plot threads.

An additional source of frustration is the linear game structure. Not only does any deviation from the One True Path result in your immediate demise, but you must also save compulsively at dramatic moments—or else retrace your footsteps over and over, repeating the same lengthy video sequences until you finally figure out which button you were supposed to push. If a game is to be so dependent on continual saving, it really should happen automatically.

—Mark Simmons



ZAK ATTACK! These pesky one-eyed miscreants are lurking in wait everywhere, just waiting for a chance to whack you with their red-hot axes.



GOOD NEWS: Serious eye candy. Painstakingly faithful to original. Heaps of plot and background.

BAD NEWS: Brief story can be completed in just a few hours. Strictly linear gameplay. Constant saving is an annoying distraction.

Creatures

COMPANY: Mindscape

CONTACT: 415-897-9900; <http://www.creatures.mindscape.com>

PRICE: \$35.95 (street)

REQUIREMENTS: Any Power Mac, System 7.5 or later, 35MB of free hard disk space, CD-ROM drive

Creatures is an attempt at making artificial life fun. You get to play god to a race of adorable creatures called the Norn. You have to teach them language, show them where to eat, and keep them away from the evil Grendel monsters. Eventually, they'll mate and have Norn babies. You can breed them and trade your Norn with other people over the Internet.

Or you *could* if the developers hadn't used the Microsoft Foundation Classes (MFC) to create the Macintosh version. MFC is a framework that's part of Microsoft's Visual C++ environment. For Windows, MFC creates good programs. For the Mac, though, performance is dog slow, even on a Power Mac 8600/200. MFC essentially translates Windows calls into native Macintosh code, turning the Mac into a virtual Windows machine, but with none of the optimization you'd expect from an emulator.

To put it mildly, this MFC conversion sucks. Installation is a nightmare, with 101 items plopped into a folder, including 16 applications (for instance, there's a little Norn-eye's-view window

that is its own application). Some of these don't even have proper Mac menus, and the multiplicity of separate programs slows the game's performance even further.

Just getting through the program was a chore. The cursor lagged way behind movement. Scrolling was abysmal. The game was not at all responsive (though on a Pentium 100, Creatures was playable). There's no excuse for this.

We have other complaints about gameplay, but these are way overshadowed by our gripes about performance. If I were a Windows developer, and saw how badly a program created with the Microsoft framework performed, I might think that the Mac were slow or something (call me paranoid). Those big huge Norn eyes can't out-cute a dog of a game.

—Kathy Tafel



THE NASTY GRENDLS spank your Norns, and try to teach them incorrect words.



GOOD NEWS: Nice box. Cute art.

BAD NEWS: Game ported using Microsoft Foundation Classes. Slow. Unresponsive. Breaks Mac OS interface guidelines.

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System Requirements: Any 68040 or higher Macintosh with at least 8MB RAM,
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reviews

Heroes of Might and Magic II

COMPANY: Studio 3DO

CONTACT: 800-336-3506; <http://www.3do.com>

PRICE: \$38.95 (street)

REQUIREMENTS: 68040 or faster, System 7.5.3 or later, 50MB of hard drive space, 8MB of free RAM (we recommend 10), CD-ROM drive

In our March '97 issue (p79), we warned you against Heroes of Might and Magic, not because of the game, but because of the port quality. With the sequel, Heroes of Might and Magic II: The Prince of Loyalty, we can skip right to gameplay, because there's nothing wrong with this version technically.

The game mechanics haven't changed much from the original: You still control castles and heroes, and your goal is to take over the other castles and defeat all other heroes on the gameboard. There are six different types of heroes and castles—barbarian, sorceress, wizard, warlock, necromancer, and knight—which control different species of fantastic creatures—goblins, druids, golems, rocs, mummies, and calvary, to name just a few. Castles provide troops and the funding needed to hire them. To improve both troops and income, a hero needs to claim control of a variety of building materials scattered throughout the countryside. Improving the fortifications requires wood and stone and leads to better defense, whereas mercury, gold, and sulfur allow you to upgrade the mage tower which gives a hero more spells to cast. Opposing heroes vie for control of these resources.

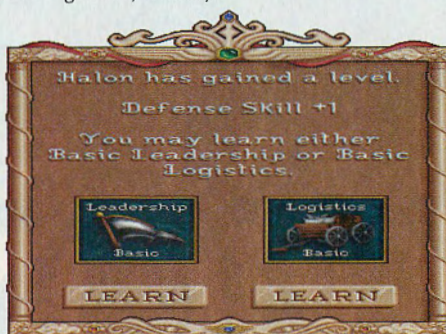
The sequel adds more hero types (necromancer, wizard) and their associated monsters (vampires, halfings). There are more buildings on the playing field, and you can climb a tower to get a glimpse of the surrounding countryside, even of places you can't physically reach yet. The castles



WANDER AROUND GATHERING resources, but don't wait too long to attack the other heroes.



TURN ON THE GRID to see where your creatures can move. Dead warriors slump to the ground and remain on the battlefield.



WHEN A HERO GAINS an experience level, he or she can learn a "skill."

have been upgraded, with more options: You can build a captain's quarters, turrets and a moat for defense. If a hero isn't in the castle when it's attacked, the captain leads the defense. You can also upgrade the creature habitats: cavalry become champions, giants become titans, and liches become power liches.

Battle mechanics are slightly different from the original. Your hero gets a number of spell points, and once he or she runs out, no more spells may be cast. There are also some new battle spells: the "death ripple" is amusing to watch as it ripples along

th screen, wounding all living creatures in its path. The death ripple can be countered with a "holy word" spell, which clouds the video and wounds undead creatures, such as vampires and liches. If your hero runs out of points, you can take him or her to a castle to recharge (but not during battle).

Completely new in the sequel are campaign intros which introduce the opposing forces. You can choose to play the good (outcast and honorable) or evil (in power but oppressive) side. We found the campaign scenarios difficult after the first few levels. If you get stuck, play a standard game, and work up to beating the expert levels at the highest difficulty rating, and then go back to the campaigns.

The game is zippy on a standard Power Mac. However, if you're running on a 68040, turn off ambient animations and computer opponent animation. Our only nit to pick with Heroes II is that we wish that ports would use the standard file dialog for saving and opening games, and that the light source for shadows was in the Mac-standard upper left corner. Still, if you're a role-playing or strategy fan, you'll have tons of fun with Heroes of Might and Magic II. —Kathy Tafel



GOOD NEWS: Completely upgraded. Runs well on '040s. Better port than original. Fun for weeks, not hours.

BAD NEWS: Nonstandard saving mechanism. RAM-hungry.

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MATT GROENING



cd-roms

WINES OF THE WORLD ■ HUMAN VISION ■ GARY BERNSTEIN'S SECRETS OF PROFESSIONAL PHOTOGRAPHY ■ DEEPAK CHOPRA ■ BRITANNICA

Each month five CD-ROM titles are reviewed by three Mac addicts who hold vastly different opinions on just about everything. This month was no exception. Mark loved a product that Judy kind of liked that Joe hated. Then, Judy went nuts over a title that both Mark

and Joe loathed. End result: mediocre ratings for several discs that at least one person thought was freakin' awesome. Although this may sound unfair, we've found that it's the best route to the fairest review overall. After all, the real stars truly shine, and everyone can agree on that. —Nikki Echler

Wines of the World (Gold Edition)

COMPANY: Multicom
CONTACT: 800-850-7272,
<http://www.multicom.com>

PRICE: \$19.95 (street)

REQUIREMENTS: 2X CD-ROM,
System 7.1 or later, 68040 or faster, 8MB of RAM



Perhaps a nice Merlot with your Big Mac? Or would a light Chardonnay taste better with the fries? The only thing more nerve-racking than picking the perfect wine for the perfect meal is using this disc to do it.

From reading just the box, this disc sounds rich: more than 40,000 wine reviews; expert insights into wine making and appreciation; maps, photos, and videos describing vintages, varietals, and wine regions; and buying tips. Your sophisticated hopes, however, are quickly dashed with the first taste of the

search engine. It's nearly useless at searching anything—including good, cheap wines.

You do get some pretty pictures and paragraph-long explanations on wine making, highlighted with video insights from wine authority Ronn Wiegand. But the editors apparently spent too much time in the tasting

room, as evidenced by oft-repeated sentences and punctuation errors.

For \$10 more, you can buy the disc bundled with a decent book on wines. Or, better yet, you could buy a couple of bottles of vino and do your own research.

The Last Words:

Mark: Wine makes me sleepy, and so does this disc. If you're a globe-hopping wine connoisseur looking for a database of new vintages to sample, by all means help yourself, but I'll pass on this round.

Judy: The opportunity to create something tasty got completely crushed. Really. This disc turns multimedia grapes sour.

Joe: A terrible search engine, bad editing, and grainy QuickTime videos. Even worse, of the 40,000 reviews, I couldn't find any mention of the Boone's Farm. Hmmm.



EVEN OPTIMISTS WILL AGREE that this wine glass is more than half empty.

Human Vision

COMPANY: Interactive Eye
CONTACT: 207-725-3516,
<http://www.iknow.net>

PRICE: \$75 (SRP)

REQUIREMENTS: 2X CD-ROM,
System 7.1 or later, PowerPC only, 12MB of RAM



As inventive as it is interactive, this small-time science title reveals the inner workings of the eye through an effective 3D blend of video science.

An awesome QuickTime sweep through the eyeball's innards takes you past such sights as your rods, cones, and cornea. Once inside, you can dawdle over the details via dozens of video graphics, or you can get a 3D glimpse at how all the parts work together. A few hands-on sections also let you test your vision and experience optical illusions, while the hard-core scientific principles surrounding the development of the eye, the properties of light, and proper eye care are explained in down-to-earth terms. It's simple, straightforward, and, of course, eye-catching.

The content appears to be 20/20, but the navigation has room to improve. For example,

you can move in only one direction in 3D mode, which turns one of the disc's best features tedious. Loading time can also take one too many blinks of even an uncritical eye.

The Last Words:

Mark: As promised, you'll find just about all there is to know about vision on this disc, from the physics of sight to the care and feeding of your eyeballs.

Judy: Glory be, I can see! The disc suffers some at the hands of the navigation developers, but the content folks came through with their end of the deal. What a tour!

Joe: You just have to love a disc that doesn't require hard-disk installation and has so many good videos. I just wish other CD makers could see the light. (Pun absolutely intended.)



BRILLIANT USE OF MULTIMEDIA lets you see what's really going on behind those eyes.

Gary Bernstein's Secrets of Professional Photography

COMPANY: Damar
CONTACT: 800-234-2627,
<http://www.damar.com>
PRICE: \$30 (street)
REQUIREMENTS: 2X CD-ROM,
System 7.1 or later, 68030 or faster, 8MB of RAM



Nikon neophytes who don't know an F-stop from a stop sign, others may want to see the bigger picture—something Bernstein doesn't deliver. For example, it would be great if the disc included a multimedia workshop, where virtual photogs could play with a cyber-

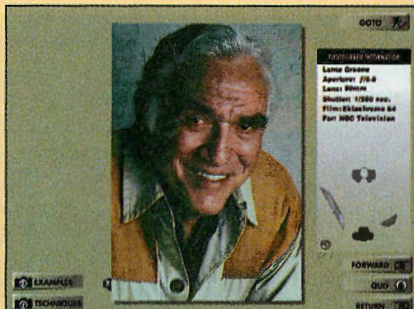
camera to see what kind of picture would be created using a small aperture with a fast shutter speed. In only a few instances do you actually get to see the photographic effects of all that camera-control fiddling.

The Last Words:

Mark: Lots of diagrams of how shots are set up, lots of comparisons of the same scene with different options, and no shortage of useful advice.

Judy: Given that basic photography books can be a total bore, this disc has its merits—primarily, a Photography 101 short-course—but beyond the basic introduction, I'd “shutter” it in the basement.

Joe: I spent a few hours paging through the disc and learned little more than the importance of removing the lens cap.



BERNSTEIN'S SECRETS sound better when they're left untold. Everyone say, “cheese.”

A celebrity photographer invites you over to his place to teach you the tricks of his trade. The catch? You have to sit through a slide show of 400 of his photos. And you can't touch any of his gear. You just listen to him talk. And talk. And talk.

Sure, host Gary Bernstein knows his business. He easily briefs you on basics of adjusting film or shutter speed and playing with light to produce better-than-Polaroid photos. He also hands out plenty of advice on how to stage pics for guys, gals, and groups.

While that might seem picture perfect to

Deepak Chopra: The Wisdom Within

COMPANY: RandomSoft/Crown
CONTACT: 800-788-8815,
<http://www.randomhouse.com>
PRICE: \$39.95 (street)
REQUIREMENTS: 2X CD-ROM,
System 7.0 or later, 50MHz 68030 or faster,
8MB of RAM



And yet, despite all of the feel-good philosophy that will keep self-help folks in meetings with their inner selves for weeks, scrolling through the endless text boxes of the Living in Balance section would make even Gandhi violent. With no hyper-linked glossary, the big words spread evil thoughts through your psyche, until you've fallen off this wagon of enlightenment.

The Last Words:

Mark: I wouldn't rank this as “Spiffy” per se, but suspending my natural cynicism, I found it a serviceable intro to the Chopra ethos.

Judy: If you're skeptical, critical, or simply not a believer in anything Eastern, you'll have a hard time with this disc. But if you're curious, wondering, and want a multimedia workbook to manage your life for life, it's worth the investment.

Joe: Sometimes it made perfect sense. Other times it left me scratching my head. And I'm just talking about the setup, not the message.



NEW-AGE NOVELTY needs a little more self-help to enlighten us.

Positive energy has little trouble flowing through much of this visually rich New Age workshop hosted by author Deepak Chopra. Turn that frown upside down with a stroll through the Field of Infinite Possibilities for total mind well-being. Or nurture your physical side with a trip through the Sacred Space, which comes complete with tips on embracing Mother Earth's natural energy.

Britannica CD 97

COMPANY: Encyclopædia Britannica
CONTACT: 800-747-8503,
<http://www.eb.com>
PRICE: \$150 (SRP)
REQUIREMENTS: 2X CD-ROM, System 7.1 or later,
16ci or faster, 8MB of RAM



However, the ultimate question goes unanswered: Why so few sounds, graphics, and movies? Look up the Beatles, and you'll get a page of text but no pictures of John. Search on cats to find dozens of articles but no cute kittens with their paws draped over a laundry basket.

Which leaves us with a question you *can't* type into the CD's search engine: Is any disc that lacks significant multimedia worth over a hundred bucks? We doubt it.

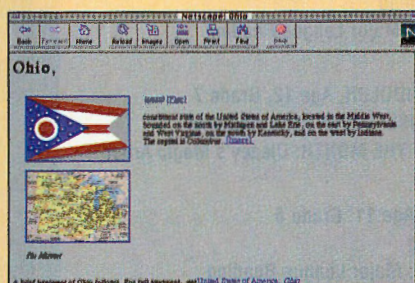
The Last Words:

Mark: Not a stellar product. It must have seemed like a good idea to use a Web browser as a browsing interface—it does have familiar navigation controls—but jeez, people, your HTML is so 1995.

Judy: Spend time with the manual, modify your searches, and learn all sorts of random stuff!

Joe: OK, Britannica folks, bonus question: What year is it? If you answered 1997, then you should know that you're way behind the multimedia curve for a CD encyclopedia.

Encyclopædia Britannica, the first friend of many a young researcher, has crammed several lifetimes of learning into its latest offering. For a whopping \$150, you get 44 million words with 400,000 hyperlinks to 65,000 subjects, plus the standard Web link. The one-disc info dump comes with an easy-to-use Netscape Navigator interface that lets you search by typing in standard questions instead of just “Find this and that but not that.” Nice.



WEIGHTED DOWN WITH WORDS but meager with movies. And pictures. And sounds. And fans.



Kidz Stuff

Local Mac addicts from the Brisbane schools size up kids' software to see what fits.

Math for the Real World

COMPANY: Davidson and Associates

CONTACT: 800-545-7677, <http://www.education.com>

PRICE: \$30 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 12MB of RAM



As a rising rock star in the real world of math, you and your band need to struggle through a 10-city tour, earning enough money along the way to produce a killer music video that will send your song soaring up the charts. How do you raise the cash? Do the math, yourself. Use fractions to keep your drummer from skipping out on his dinner bill, budget money for new equipment, and learn all about time

zones to reach your next gig on time. Cash bonuses are awarded for correct answers, and glory awaits you in the recording studio.

GOOD FOR GRADES: 5 to 8

LIKES: "You need to use your brain and need to know your math. The game has great sound and good color. It gets going right away. You also have something to work for (a music video)." ■ Benjamin

"There was good music and fun, short games." ■ Devin

"I liked that you can make a music video with explosions. I liked the easy math problems." ■ Brian

"I like how you get to drive in a car. I like how you have to get gas and eat." ■ Justin

DISLIKES:

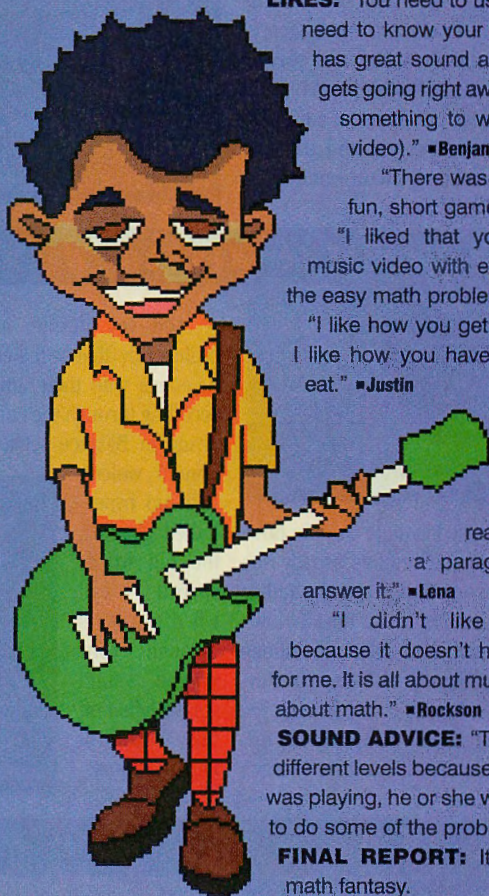
"It's kind of boring unless you really like to read a paragraph and then

answer it." ■ Lena

"I didn't like this program because it doesn't have enough info for me. It is all about music, it's not really about math." ■ Rockson

SOUND ADVICE: "They should have different levels because if a smaller child was playing, he or she would not be able to do some of the problems." ■ Amanda

FINAL REPORT: It's a rock 'n' roll math fantasy.



Meet the players...



AMANDA OLSEN, Age 10, Grade 5
EXPERTISE: Arm wrestling
PICK OF THE MONTH: Math for the Real World



DEVIN NIXON, Age 10, Grade 5
EXPERTISE: Mountain climbing
PICK OF THE MONTH: Major League Reading



JUSTIN PEREZ, Age 10, Grade 5
EXPERTISE: Baseball
PICK OF THE MONTH: Major League Reading



ROCKSON YAN, Age 12, Grade 7
EXPERTISE: Computers
PICK OF THE MONTH: Major League Reading



DANIEL LAM, Age 11, Grade 6
EXPERTISE: Shakespearean soliloquies
PICK OF THE MONTH: Math for the Real World



BENJAMIN WILSON, Age 11, Grade 6
EXPERTISE: Piano tuning
PICK OF THE MONTH: Major League Reading



LENA RUDOLPH, Age 12, Grade 7
EXPERTISE: World-class modeling
PICK OF THE MONTH: Disney's Magic Artist



BRIAN SCHROEDER, Age 11, Grade 6
EXPERTISE: Whistling
PICK OF THE MONTH: Major League Reading



YOU'LL WANT TO ROCK 'N' ROLL all night and do math every day.



Major League Reading

COMPANY: Sanctuary Woods Multimedia

CONTACT: 800-943-3664, <http://www.ah-hah.com>

PRICE: \$29.99 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68030 or faster, 5MB of RAM



What's more intimidating than a Randy Johnson fastball? How about having to answer reading problems in order to score the game-winning hit? If you want your favorite team to win the World Series, get ready to sharpen your spelling skills and brush up on your vocabulary words. On defense, select from one of five pitches, and then correctly answer a word teaser to ring up a strikeout. At bat, fill in the blanks of a word problem to smash home a run.

GOOD FOR GRADES: 3 to 6

LIKES: "The power-ups are fun. You're supposed to catch a baseball, but you could catch a bird, or a dog could bite you." ■ **Daniel**

"I like the way that it is like a real game and you do the same things like pitch, bat, and other things." ■ **Amanda**

"It has great graphics, and it is easy to play if you know how to read and spell." ■ **Benjamin**

DISLIKES: "You have to know a lot about many different baseball teams, and I don't." ■ **Lena**

SOUND ADVICE: "I would improve this program by having infinity power-ups." ■ **Brian**

FINAL REPORT: Reading for sport strikes a chord with major league fans.



DIVE INTO A STORY and slide safely into a home-run hit.

Dragon in a Wagon

COMPANY: Diamar Interactive

CONTACT: 800-234-2627, <http://www.diamar.com>

PRICE: \$29.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 25MHz 68030 or faster, 8MB of RAM



Preschoolers itching for their own set of wheels can rely on the wagon dragon to teach them everything there is to know about getting from here to there—be it over the river and through the woods or on a 12-lane superhighway. The dragon and his assistant, Megan, host five different games exploring every angle of the vehicles we use every day. Get Megan to the finish line in the Crossroads Puzzle by matching a vehicle to its terrain, answer quiz show questions on transport trivia to reveal a hidden picture, create your own vehicles in the lab, or take your road warrior to the Art Center for a do-it-yourself custom paint job.

GOOD FOR GRADES: Preschool to K

LIKES: "It was fun to make different vehicles and learn how they work. It also has good sound and lots of things to do." ■ **Benjamin**

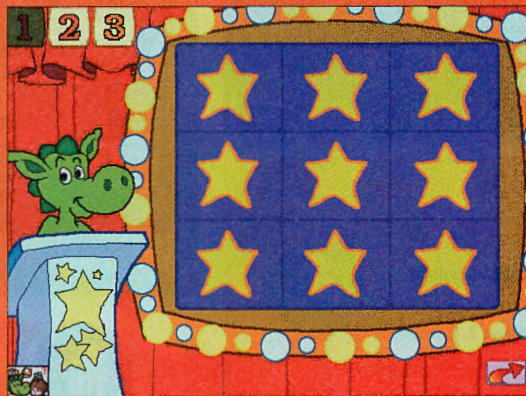
"I like the way they gave you different types of games to play. I also like that they gave you choices of what to put in your picture." ■ **Amanda**

DISLIKES: "It's kind of childish. It takes too long and is too slow." ■ **Lena**

"The dragon isn't realistic and it's too small. Some vehicles don't go as fast. The vehicles look bad." ■ **Daniel**

SOUND ADVICE: "I would have more colors and have the girl do something." ■ **Justin**

FINAL REPORT: The wagon dragon knows all the highway how-to's.



WAGON DRAGON makes for great car talk at parties.

A Color Clown Comes to Town

COMPANY: Diamar Interactive

CONTACT: 800-234-2627, <http://www.diamar.com>

PRICE: \$29.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 25MHz 68030 or faster, 8MB of RAM



If your preschooler has yet to learn the difference between red, orange, green, and blue, it might be time to call in the clowns, or at least the Color Clown and his sidekick, Laura. The comic duo teaches kids the properties of color (hues and shades, primary versus secondary) as well as some basic reading skills via an interactive coloring book. (Kids can act as the narrator by recording their voices over the story.) If kids get bored with the book, they can switch to mixing paint for Laura's art projects in the mixing room, or matching everyday objects with their colors in the squirting gallery.

GOOD FOR GRADES: Preschool to K

LIKES: "It's good for preschool kids to learn how to paint. It helps kids learn their colors and easy words." ■ **Rockson**

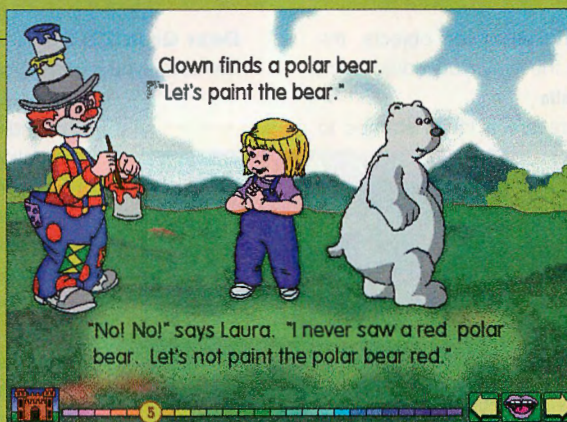
"It is fun coloring pictures and drawing things. Plus, it is also cool to mix colors to make other colors you want." ■ **Benjamin**

DISLIKES: "The story is bad, the squirting colors place is too easy, and in the mixing color place, you could mix only three colors together." ■ **Daniel**

"It says the same things over and over again, and it needs more sound effects." ■ **Benjamin**

SOUND ADVICE: "I would have more stuff with the clown. I would have more games." ■ **Justin**

FINAL REPORT: Clowning around with colors is perfect for preschoolers.



CLEVER CLOWN provides plenty of paint for playing with color.

Let's Pretend Volume 5: The Past Is Our Playground

COMPANY: Ringling Multimedia

CONTACT: 800-762-6443, <http://www.mindmagic.com>

PRICE: \$19.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68030 or faster, 8MB of RAM



FLASH FLUTTERS, flickers, and fades into history just by clicking on junk.

Flash the Firefly wants you to know that your attic is more than just a cleaning project. Click on objects strewn across the room, and Flash whisks you away to such sites as ancient Greece, the Roaring '20s, and the Ice Age. Each destination teaches spelling and vocabulary, and is loaded with hidden pop-up facts about history, science, and just-for-fun trivia.

GOOD FOR GRADES: 1 to 4

LIKES: "It taught me a lot of things about different times in the past, like in Ancient Greece the first Olympic games were held almost 3,000 years ago." ■Lena

DISLIKES: "You don't get to answer the questions that they ask you. They say, 'Do you want to go to the past?' OK, let's go! You don't get to decide." ■Brian

SOUND ADVICE: "Let you answer the questions." ■Daniel

FINAL REPORT: Historical blast to the past fails to wow us now.

Highlights Hidden Pictures Workshop

COMPANY: Palladium Interactive

CONTACT: 800-910-2696, <http://www.palladium.net>

PRICE: \$29.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 8MB of RAM



Highlights magazine's ever-popular hide-and-seek picture puzzles advance toward the modern age with this digital workshop full of the perplexing collages. Young players can create colorful pictures by finding hidden objects in scenes ranging from Grandma's kitchen to a dinosaur barbershop. When kids have uncovered all the hidden hot spots, they can click over to the creativity studio to customize storyboards or produce their own artistic brain teasers.

GOOD FOR GRADES: K to 3

LIKES: "I like that when you found all of the objects, the picture would be colored in. I like the way you could paint instead of just finding pictures." ■Justin

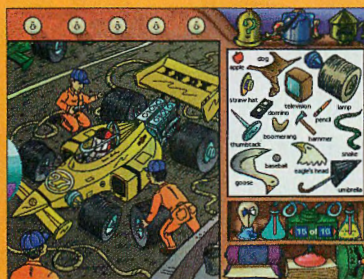
"You could mix colors, and there are a lot of stamps to use." ■Daniel

DISLIKES: "The sound effects are OK, but they're the same each time you click on something." ■Benjamin

"Finding the pictures is too hard." ■Devin

SOUND ADVICE: "I would have more instructions. I would have more games to play." ■Justin

FINAL REPORT: The highlights are hard to find.



HIGHLIGHTS HIDES the pictures and the fun.

Disney's Magic Artist

COMPANY: Disney Interactive

CONTACT: 800-900-9234, <http://www.disneyinteractive.com>

PRICE: \$35 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, PowerPC only, 16MB of RAM



Just a touch of that ol' Disney magic, a PowerPC, and a ton of RAM, and suddenly, everyone is an artist. Hundreds of stamps, characters, costumes, poses, and backgrounds mean that kids are limited only by their imaginations and not by their drawing skills. Drawing lessons led by Disney animators, however, teach kids how to create their favorite Disney characters all on their own. Those with the guts to go freehand can paint with everything from a crayon to a toothbrush to a whipped cream can. Yum.

GOOD FOR GRADES: 2 to 7

LIKES: "It has good pictures and sound, plus you get vivid colors. It makes you feel like you are an artist, and it looks good and makes you feel good when you're done." ■Benjamin

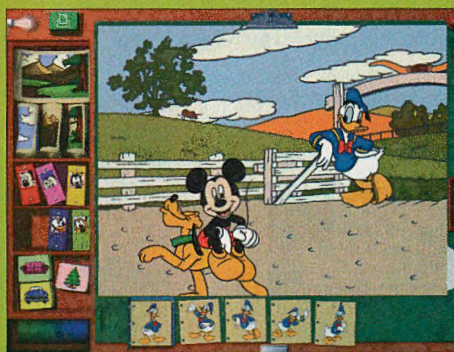
"Good sound effects. There are a lot of backgrounds. There are a lot of stamps." ■Daniel

DISLIKES: "It goes too slow and takes too long. It doesn't give enough directions." ■Lena

"When you press on something, it doesn't tell you what it does. There are some places that you don't even know are there." ■Daniel

SOUND ADVICE: "Have the game for all computers, not just a Power Mac." ■Benjamin

FINAL REPORT: Kids without Power Macs will miss out on this magic act.



SKETCH MICKEY or create your own goofy drawings.



Ask Nikki

Dear Nikki,

My high school is making everybody take a class called "computer literacy" including ME!!! I have had a computer since I was FOUR!! I have 10 years of experience using computers and they are making me take computer literacy!!! All I'll be doing is learning how to type, but I can do that with my eyes closed. Oh yeah, we learn basic Internet skills, too—I sent you this letter through email, didn't I?!?! I don't need this class, but the worst part is that for half the class we use PCs (ewwww gross, huh!) Please help!!! Greg Prevost, Keene, NH

Dear Greg!?!?

Perhaps if you impress your computer literacy teacher with your admirable punctuation skills, you'll be quickly yanked from that offending class and placed in a more useful learning situation, such as Grammar 101. If not, try being a good Samaritan by helping the other kids in the class who may not harbor the vast knowledge of computing that you seem so fortunate to possess. And, though it sucks to be chained to a PC for half the class, it provides you with the perfect opportunity to evangelize your classmates. Place a Mac next to a Wintel box, fire up both of them, and the choice is obvious, isn't it?

(Kids, the next time you have a problem, write to Ask Nikki, c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.) —Nikki Echler

Also plays as an audio book on home & car stereos.



Why settle for the moon, when you can give your child nine planets, Orion's Belt, and a pink poodle?

Introducing Connie & Bonnie's Birthday Blastoff.[™] The latest sign of intelligent life.

Show your kids there's more to outer space than zapping brain-sucking aliens. Our new CD-ROM is *Connie & Bonnie's Birthday Blastoff*, an interactive interstellar adventure offering a view of space second only to the front seat of the Discovery shuttle.

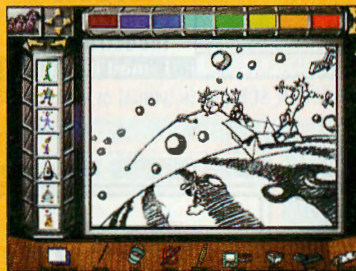
A launch pad for learning.

Every page provides new adventures and new things to learn. As Connie and Bonnie speed past Mars, kids discover why it's red, and how much they would weigh standing on its surface. Fun riddles then challenge your kids to apply their newfound knowledge.

And to encourage further exploration, each page suggests activities away from the computer, like using a flashlight and an apple to study eclipses.

More fun than zero gravity.

From connect-the-dots constellations to genuine NASA videos, we have every outer space activity imaginable. And with our "learn as you play" philosophy, they all educate while they entertain. One small step by you will help your kids make a giant leap in learning. Call 1-800-980-9468, Dept. A1029 today to try the software, risk-free for 30 days. If you're not completely satisfied, return it and you'll owe nothing. Or keep it for \$29.95 plus \$4.95 shipping and handling.[†]



Kids can paint using the fun stamps, colors and backgrounds provided.



THE SEARCH FOR INTELLIGENT LIFE BEGINS AT HOME.[™]

Try it risk free for 30 days

Call 1-800-980-9468 Dept. A1029

Active Arts, 610 SW Broadway, Ste 500, Portland, OR 97205 www.active-arts.com



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Offer ends
November 1, 1997



how to

do smart Web searches

We give you the top secrets for finding exactly what you want on the Web.

What we need is White Pages for the Internet. What we get instead is...search engines, those free commercial Web sites that let you seek out Web pages and other Internet content by specifying the words and phrases that you expect to appear in the content. A good search engine is as powerful as a sledgehammer, but a sledgehammer isn't much good if you're looking for needles in haystacks. When you're looking for that one perfect page chock-full of relevant information, you'd better know all the ins and outs of Internet search engines. The more you know, the more likely you are to find the needle. Here's a quick lesson on the basics of Internet search engines and some tips for getting the most out of the popular search sites. —Joseph O. Holmes

The 7 Most Popular Search Sites

AltaVista, <http://www.altavista.digital.com>

Excite, <http://www.excite.com>

HotBot, <http://www.hotbot.com>

Infoseek, <http://www.infoseek.com>

Lycos, <http://www.lycos.com>

Magellan Internet Guide, <http://www.mckinley.com>

Yahoo!, <http://www.yahoo.com>

STEP 1 The Basics

The typical search site on the Web offers a text box for entry of a few words, called the *query*, and a button that says something like "Search!" or "Seek!" Press Return after typing your search query, or click the button to see a page displaying a list of the "hits"—that is, the pages that match your query.

If you're like most people, you type a word or two and hit Return, you get tens of thousands of hits, and then you give up after scrolling through the first dozen or so, which are totally irrelevant anyway.

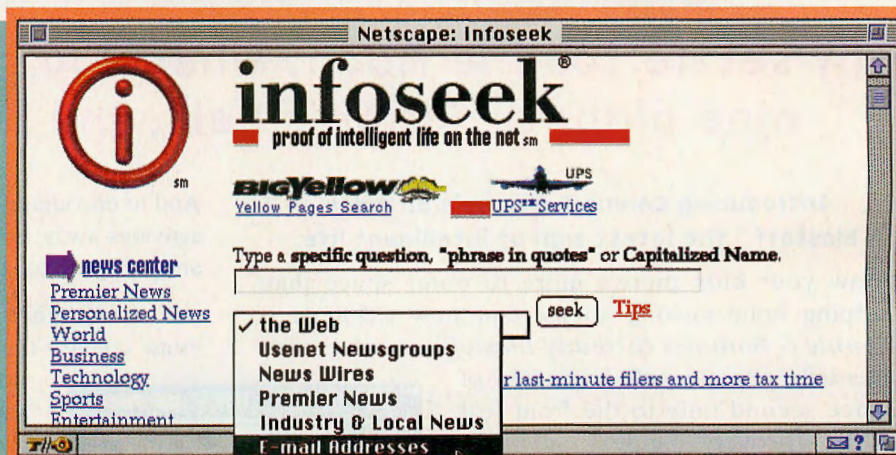
Guess what? You did the worst possible search.

Hot Tip:

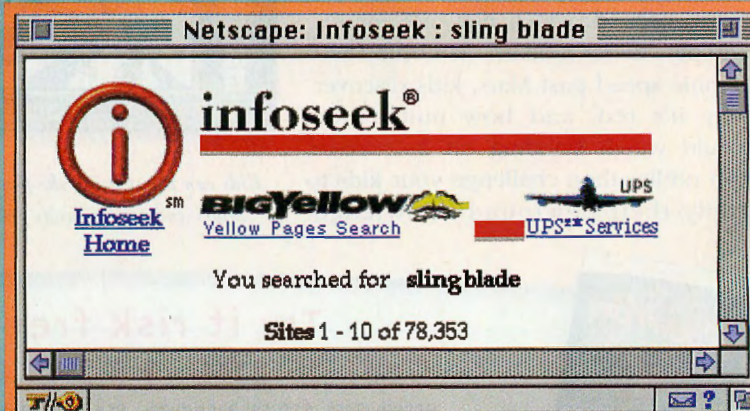
Want to find all the pages that link to *your* home page? Infoseek and AltaVista make it easy, with a field search called "link:" that lets you look for links which point to your URL: link: <http://yoursite.com/~dir/index.html>

Read on.

Don't think of that text box as a place to type a keyword or two. Instead, think of it as a place to ask a question. Your first impulse should be to ask for exactly what you need. Surprisingly, almost every search engine does a respectable job with a query such as, "Where can I buy used Newton MessagePads and software?" That's all most people probably need to know. But you, dear MacAddict reader, aren't most people.



THIS INFOSEEK SCREEN is typical of what you'll see in the search engines on the Web.



SEE THAT NUMBER at the bottom of the window? Your search turned up close to 80,000 hits. Time to narrow the search.

STEP 2 Understanding Booleans

You can make your query more precise if you take a few minutes to learn to use what are known as *Boolean* search commands. A few simple logical operators—the words *and*, *or*, and *not* are the most common—help specify the target. For example, say you want to search the Web for reviews and criticisms of Charles Dickens' novel *Great Expectations*. First, try a search using the Boolean *and* to ask for all files that contain both the word *great* and the word *expectations*.

NOTE! Internet search engines don't follow strict Boolean rules. The *and* operator doesn't guarantee that a word will appear in a found document—it simply moves documents that contain the words closer to the top of the list; that is, higher in the *ranking*. To *require* that found documents include a certain word, most sites let you add a plus sign (+) to the word, like so: *+golf*. Similarly, add a minus sign (-) to be sure that the word does *not* appear in found documents.

Now narrow the search even more, to criticisms or reviews of the work, by using a Boolean *or*. Note the use of parentheses to group terms:

Type a specific question, "phrase in quotes" or Capitalized Name.
dickens and "great expectations" and (review or criticism)
the Web seek [Tips](#)

That's better. You eliminated a lot of irrelevant material, but the list of hits still includes movie and play reviews. Narrow the search even more with a Boolean *not*:

Type a specific question, "phrase in quotes" or Capitalized Name.
dickens and "great expectations" and (review or criticism) not (play or movie)
the Web seek [Tips](#)

Now you're getting there! This search would turn up only documents that include the phrase *great expectations*, the word *dickens*, and either the word *criticism* or the word *review*. And it would exclude any document that met all the above criteria but also included the word *movie* or *play*. Just when you thought you were done—you're close. In fact, you probably have *almost* what you need. Now it's time to refine your search.

Hot Tip:

Microsoft Internet Explorer lets you add your favorite search engine to a toolbar button. Just go to the search site's home page, open Internet Explorer's Preferences window under the Edit menu, and click the Home/Search Page tab. Use the pull-down menu to set your Search Page default.

STEP 3 Refining the Results

You can be virtually certain that the results of your query will turn up many, many hits, most of which have no relevance at all. Don't despair. There's still a good chance that the first page or two of hits will hold some gems. Remember, the hits are ranked in order of most precise match.

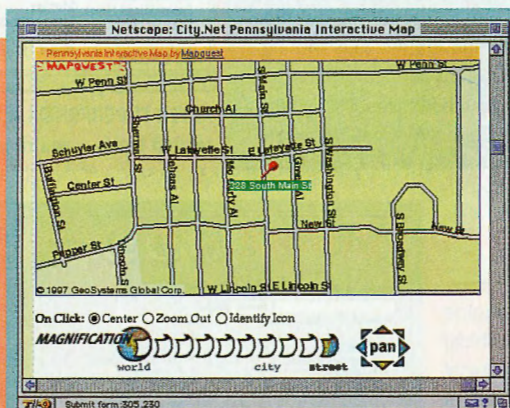
If you flip through the top 20 or 30 hits in vain, it may be time to rethink your query. First, examine the results to see what's

going wrong. Look at irrelevant hits and think about how you might eliminate them with a better query. For example, if a query including *Apple* turns up too many orchards, add *not (tree or fruit or orchard)* and search again. Narrow your query by adding more required keywords. Alternately, if a search turns up too few—or no—matches, then broaden the query by eliminating some required terms.

Extra! Extra!

All the search engines we've mentioned offer specialized information in addition to Internet searches. Here are some of the more interesting and useful:

- City maps and travel information. Several sites, including Yahoo, Infoseek, and Excite, offer detailed city guides with full-color road maps. Type your address and get a map of your neighborhood—great for printing party directions!
- Yahoo! has a specially designed area just for kids, with a search engine, directory, cool links, and more. It not only keeps kids farther away from offen-



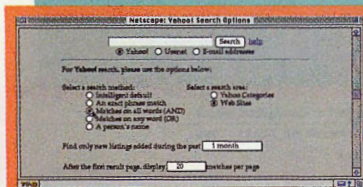
WHO KNEW that Excite's mapping service could find my parent's house in a little Pennsylvania town, population 3,000?

sive material but also offers a good focus on kid-friendly stuff.

- Search Voyer. Here's an eye-opener. Check out Magellan's Search Voyer at <http://voyeur.mckinley.com/voyeur.cgi>. It displays randomly selected searches being performed as you watch. You'll be surprised (or not) at what people are looking for!
- Specialized access to current news, stock quotes, sports scores, and email addresses. All of these search sites offer these resources—so don't think of them simply as a place for a search!

Search Tips for the Top Five

Search Engines



YAHOO LETS YOU CUSTOMIZE a search with this handy interface.

1. Yahoo

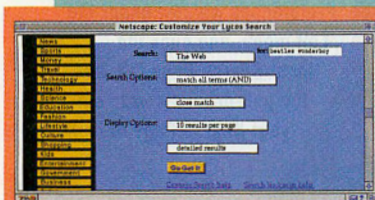
- Use restricting "operators" to search titles or URLs only. Put the operator `t:` before a search term to limit the search to titles of documents containing the word. The `u:` restricts the search to URLs containing the word. For example, `t:moonbeams` finds a page

titled Moonbeams Become Marshmallows, and `u:apple` finds pages at <http://www.apple.com> as well as at <http://www.smith&jones/~orchards/apple.html>.

- Use the wildcard character (*) for partial matches. A search for `busi*` finds the words *business*, *businesses*, and *busiest*.
- Go to the Search Options page, and use the time restriction feature to find documents newer than a certain date. From the same screen, you also can use radio buttons to select Boolean search terms.

2. Lycos

- Take advantage of Lycos' ability to search for pictures or sounds. It works remarkably well. To use this ability, click on the Custom Search link on Lycos' home page. Then use the pull-down menu under Search:



USE LYCOS' CUSTOM SEARCH to use easy, pop-up menus.

- to choose Sounds or Pictures.
- Similarly, click on Lycos' Custom Search button for pop-up menus of common Boolean terms.

- Lycos doesn't need a wildcard to search for variations on

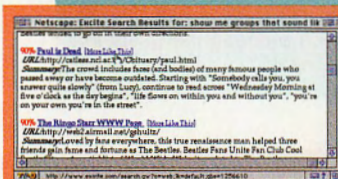
a word. It automatically does a "loose" search. To force Lycos to make an exact match, follow the word with a period. For example, `auto.` finds *auto* but not *automobile*.

3. Excite

- When using the Boolean `AND`, `OR`, and `AND NOT` operators, be sure to type them in all caps in Excite.

- Use Excite's More Like This option. The phrase appears next to all hits, and it performs another search to find pages like the hit, rather than like your search query.

- Sort your search results by site, using the View by Web Site option.



EXCITE CAN BASE a new search on the found page rather than on the original search.

It lets you see which sites have the most hits and makes browsing those hits easier.

4. AltaVista

- Using capital letters anywhere in search words finds only matches using the same capitalization—`NeXT` finds the company and operating system, not the random word *next*. Use all lowercase letters if you want to find all varieties of capitalization.

- Use AltaVista's Advanced Query for Boolean searches (you'll find it in AltaVista's home page banner). From that screen you also can set the search dates and give certain terms higher priority.

5. Infoseek

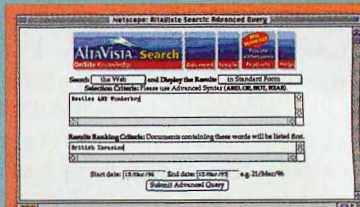
- After Infoseek gives the results of your search, check out the Related Topics. One may be just what you want.

- When searching for people or titles, capitalize the words and Infoseek will treat them as a single name or title: *Gone With The Wind*.

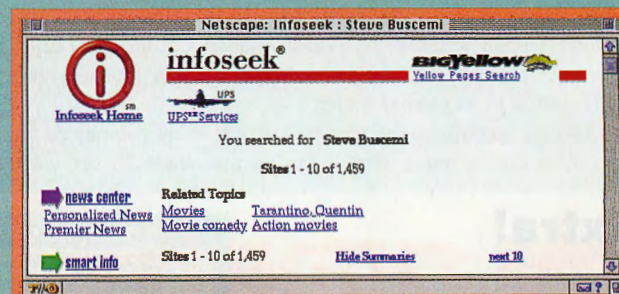
- Use a comma to separate names and titles: *Bill Clinton, Newt Gingrich, The Washington Post*.

- Use the "pipe" (|) to find hits within a group of hits: *Whitewater | Bill Clinton* searches among the sites mentioning Whitewater to find sites also mentioning Bill Clinton.

- Check out Infoseek's variety of search databases. In addition to the Web and Usenet, you can search Web FAQs, email addresses, company profiles, and several news databases. Find a list of these resources in a pull-down menu next to the Seek button.



FROM ALTAVISTA'S Advanced Query screen, you can specify several different ways to narrow your search.



AFTER IT PERFORMS A SEARCH, Infoseek lets you view sites on related topics—you're in hyperlink heaven.

Directory Assistance

You may be turning to a search engine when an Internet directory, a hierarchical listing of sites, would work better. Hierarchical directories start you with a list of general categories such as Entertainment, News, and Computers. Choose a category and click your way through ever-finer subcategories to eventually reach a select list of suggested sites. Because directories list only select sites,



THROUGH THE MIRACLE of Adobe Photoshop, we removed the banner ad from this Yahoo! screen (and from all our other screenshots in this article). Don't you wish you could really do that on the Web?

your search won't turn up thousands of tiny or irrelevant home pages. Two of the most popular directories are Yahoo! (<http://www.yahoo.com>) and Magellan Internet Guide (<http://www.mckinley.com>).

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how to

create tiled desktop patterns

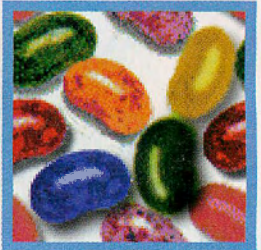
Eight steps for creating customized, seamless, tiled desktop patterns.

Tired of the dull desktop pattern that came preinstalled on your Mac? Want to have your desktop declare its individuality? Granted, you could use one of the 64 built-in patterns supplied by Apple, but that's so... corporate. If you're a true rebel with a passion for patterns, and your Mac is armed with Adobe Photoshop, you can use the following simple procedure for making a seamlessly tiled desktop pattern from nearly any artwork.

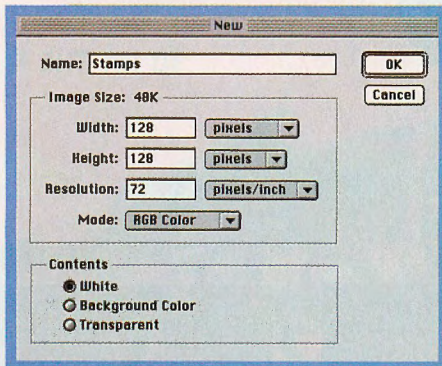
There are several key elements to making a successful desktop pattern for your Mac. First, the image that will be your tile must not exceed a dimensional total of 16,384 pixels. In other words, when you multiply the width by the height of the image that you'll be tiling, the total can't be larger than 16,384 pixels. For example, the traditional 64-x-64-pixel image tile that is supplied by Apple inside the Desktop Patterns application has a total of 4,096 pixels. Likewise, the largest Apple image (the one with the teddy bear motif) is a 128-x-128 pattern, the maximum 16,384 pixels in surface area.

The second design element to remember is that your image must line up properly with itself for repeated tiling across and down the desktop. This requirement means that your image must be seamless. There's nothing more loathsome than a tiled image that mysteriously reveals its dimensions on the desktop.

Finally, the image shouldn't look like a tiled background image. For example, brick walls are a definite no-no. This final point is the true point of demarcation between a good desktop pattern and a cliché. —*Dave Prochnow (with valuable desktop pattern artwork provided by Kathy Prochnow)*



STEP 1 Start a New File



Open Photoshop and start a new file called Stamps. Make this file 128 pixels wide by 128 pixels high. Use a resolution of 72 pixels per inch.

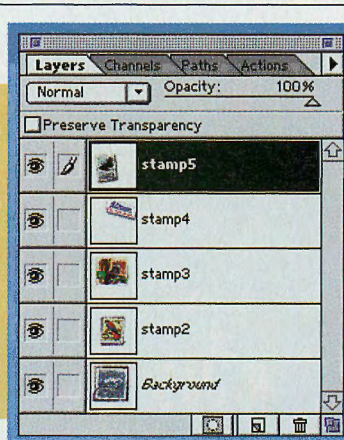
STEP 2 Gather Your Artwork

Import the artwork you want to use as your background. In this case, we scanned five postage stamps and then opened them in Photoshop as separate files.



STEP 3 Create Layers

Create four new layers in your 128-x-128 Stamps file. Now drag each stamp file onto a separate layer (Note: The initial layer is called the background in Photoshop). After filling all the layers, close the five individual stamp files. Return to your main Stamps file, and hide all the layers by clicking the Show/Hide icon in the Layers palette.



Six Tips for Creating Patterns to Tile

- Choose a theme for your tiled background. Jelly beans, stamps, paper clips, and, of course, ants work great. Also experiment with snowflakes, fall leaves, spring flowers, pasta, and coins for achieving the perfect desktop pattern.
- Use a solid background; black, white, or any color that is different from the color(s) of your selected image.
- Select at least three different images for making into the final

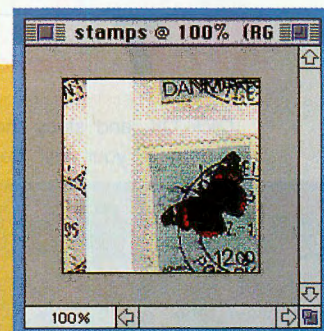
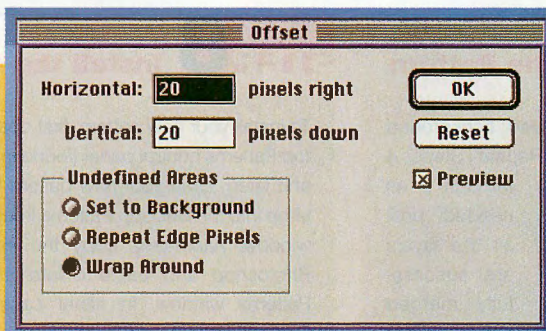
composite tiled background image.

- Vary the size of the selected images, remaining within the defined size of the final pattern dimensions.
- Use the Rubber Stamp tool to make image duplicates. This effect helps eliminate unwanted seams from the final pattern.
- Carefully look for seams between your assembled images. Use the Zoom tool to increase your viewing magnification.

how to

STEP 4 Shift the Image

In the Filter > Other menu, click on Offset. In the Offset window, enter 20 pixels right for Horizontal and 20 pixels down for Vertical, click Wrap Around, and conclude with OK. This step shifts the image over and down 20 pixels. This action gives the images a more random effect, one that is more visually pleasing.



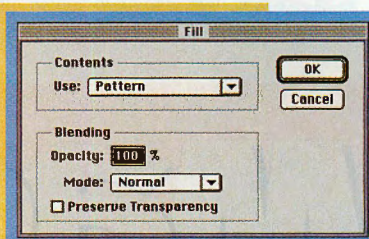
STEP 5 Merge the Layers

On the Layers palette, select Show Layer 1, then move Layer 1 with the Move tool. You should fine-tune this process until you're happy with the placement of Layer 1. When you're satisfied, merge Layer 1 with the Background using the Merge Layers command.



STEP 6 Test the Pattern

To test the background pattern, open a new file that you've given a screen size of 600 x 400 pixels. Now insert the pattern into this new test file. To insert the Stamps file, choose Select All, then click Define Pattern in the Edit Menu. Finally, you must tile this pattern across the test file by selecting Fill from the Edit menu. In the Fill window, choose Pattern for the Contents Use, 100% for the Opacity, and Normal for the Mode.



Desktop Pattern

Secrets Revealed

Like many of the other utilities that Apple effused into the Mac's lifeblood, Desktop Patterns offers several undocumented features that add more zing to your thing.

- Hold down the Option key inside the Desktop Patterns window to toggle the Set Desktop Pattern button to Set Utilities Pattern. In this toggled mode, any selected pattern becomes the background pattern for all your System utilities.
- Any PICT file can be dragged into Desktop Patterns for use as a pattern. This includes images from SimpleText and ClarisWorks Paint.
- Double-clicking any selected pattern is equivalent to clicking the Set Desktop Pattern button.
- Each 64-x-64-pixel pattern inside the Desktop Patterns application consumes approximately 4.5K to 12K of hard disk storage space. By deleting unwanted patterns, you can recover valuable disk storage space and transform the original unwieldy 64-image pattern library into a manageable customized catalog of 10 to 20 images.

The four patterns illustrated in this article weigh in at approximately 17K each. To delete a pattern, locate it and then select Cut from the Edit menu.

- Patterns are stored in the Preferences folder in the System Folder. Look for the file named Desktop Pattern Prefs. Store this file offline as a backup for your creative tinkering.
- ResEdit, the ubiquitous resource editing utility, can manipulate patterns smaller than 64 x 64 pixels in dimension. Just look for the ppat resource inside the Desktop Pattern Prefs file.



Yeah, Well Picture This

Trying to locate the perfect image for a desktop pattern can be a formidable challenge for Mac owners who are scanner poor. However, there are numerous excellent sources for ideal pattern images, including the following: ArtBeats, 800-444-9392, <http://www.artbeats.com>; Artville, 800-631-7808, <http://www.artville.com>; Image Club Graphics, 800-661-9410, <http://www.imageclub.com>; PhotoDisc, 800-528-3472, <http://www.photodisc.com>; and PhotoSphere Images, 800-665-1496, <http://www.photosphere.com>.

Window Into Your World

Sundial (John Neil & Associates, 415-905-3000, <http://www.jna.com/sundial.html>) is a CD filled with screen savers of Death Valley and the Golden Gate Bridge, to name just two. Sundial acts as a mirror of the exact time and lighting conditions as found on your Mac. Thus, at sunrise on your Mac, Sundial shows sunrise at Yosemite. (The screen savers are actually full-length movies). One bit of hype that should send a shiver down your spine is the company's claim that "having Sundial on your computer is the next best thing to being outdoors."

how to

STEP 7 Tweak the Pattern

Click OK, and study the tiled background pattern in your test file. Repeat Steps 4



through 6, as needed, until all the layers are successfully merged and you're happy with the pattern.

STEP 8 Install the Pattern

To install your new pattern, first open the Desktop Patterns control panel (found in System 7.5 and later). Drag your new pattern from Photoshop into the Desktop Patterns image selection window. Alternately, copy the image inside Photoshop and paste it into the Desktop Patterns window. In either case, click Set Desktop Pattern, and your art will be tiled!

Dave Prochnow began his interest in desktop patterns following a successful gig in England flattening crops into alien patterns.



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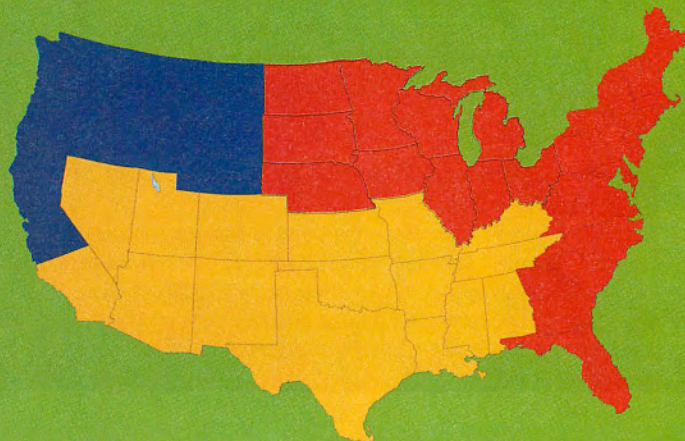
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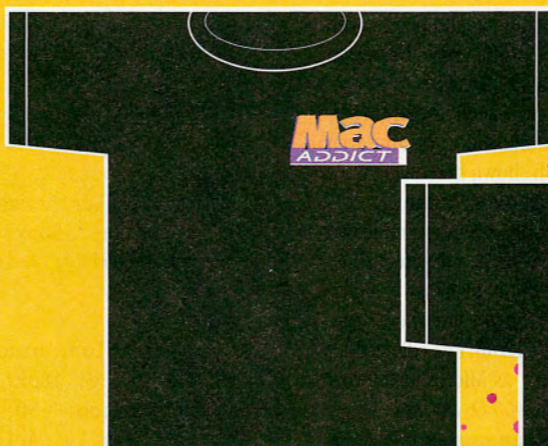
No self-respecting Mac addict should be without these essentials. These items are so cool that even your misguided PC friends will want to wear them. In fact, why not buy one for them as a gift?

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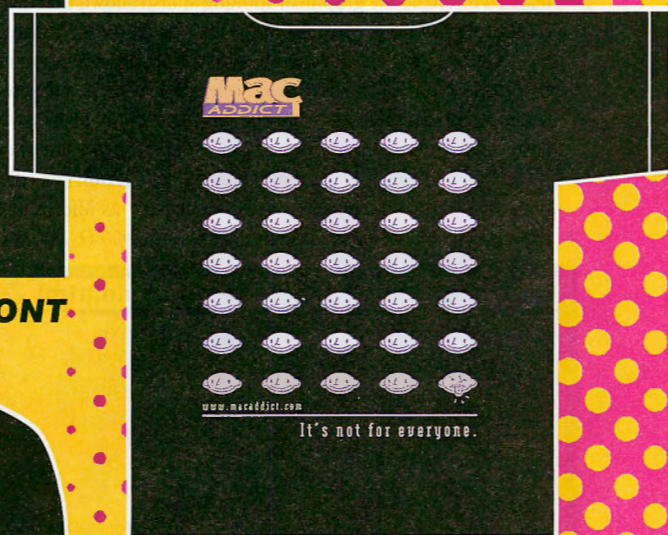
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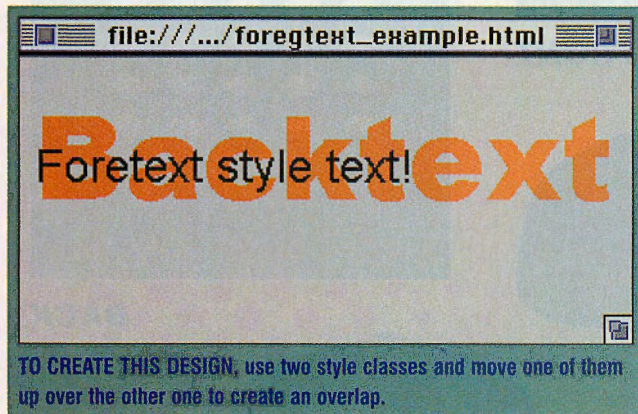
how to

run wild with style sheets

Your final lesson on how to use style sheets for creative page design.

Because they bring some true page layout capabilities to Web page design, style sheets are about to revolutionize the design of Web pages. In the last two issues, you learned how to create style sheets and style sheet parameters such as margin settings and `<DIV>` tags to work with layout in unusual ways. You even learned to create the graphical-looking splash shown here using pure HTML text and no graphics—not even a background image.

To create this design, called Backtext Words, you simply create two style classes, one of which (see “Foretext style text!” in the screenshot) you move up over the other by setting its `margin-top` property to a negative value—in this case, `-50`. At right is the HTML for the whole page. If you haven’t already typed it into your favorite HTML text editor, do it now, and warm up a styles-savvy browser such as Microsoft Internet Explorer 3.x or Netscape Communicator. —Joseph O. Holmes



```
<HTML>
<HEAD>
<STYLE TYPE="text/css">
<!--

.backgtext{color: orange;
        font-size: 60px;
        font-family: Arial Black, helvetica,
        sans-serif}

.foregtext{color: black;
        font-size: 18px;
        margin-top: -50;
        font-family: Arial, helvetica, sans-serif}

-->
</STYLE>
</HEAD>

<BODY>

<DIV CLASS=backgtext>Backtext</DIV>
<DIV CLASS=foregtext>Foretext style text!</DIV>

</BODY>
</HTML>
```

Using the Line-Height Property

Now let’s look at another way to move text around, this time from *within* a single style rather than by overlapping two styles. You’re going to add a *line-height* property to the definition of the background text’s style. Line-height is the same thing that page layout folks know as *leading* (pronounced “ledging”) and what your word processor manual probably calls *line spacing*. It’s the distance between the baseline of one line and the baseline of the next, so it controls how close a line of text comes to the line above it.

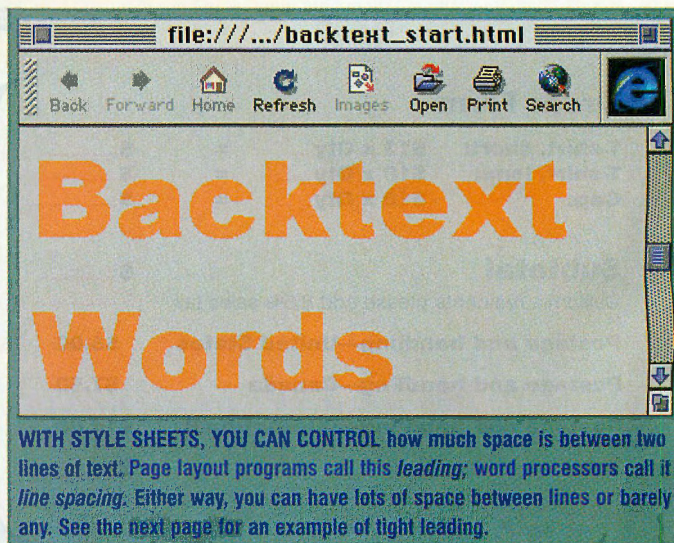
Hot Tip:

A trick to remember when working with specific layouts like this is to break up lines with a `
` tag. We inserted a break tag (Backtext
Words) to force the phrase to display on two lines no matter how wide the visitor’s window is.

First, you’ll need to change the “backgtext” content from the word *Backtext* to the phrase *Backtext Words* so that it takes up two lines in the browser window. Then you’ll need to put a break tag between the words. After the change you should have this:

```
<DIVCLASS=backgtext>Backtext<BR>
Words</DIV>
```

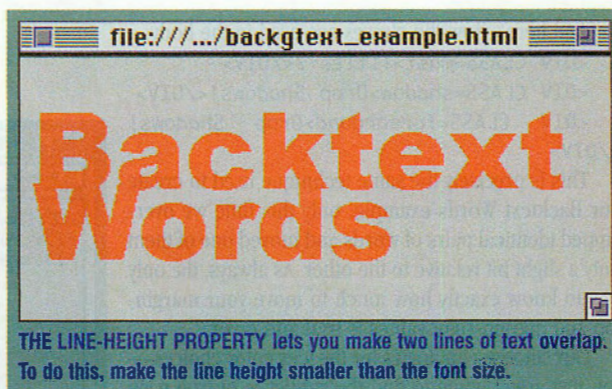
That gives you the two-line look (shown at right) in the browser.



Now's the time to make the lines much more interesting. Add a line height of 40 pixels to our "backtext" style class, like so:

```
.backtext{color: orange;
line-height: 40px;
font-size: 60px;
font-family: Arial Black, helvetica, sans-serif}
```

You can place the line-height property anywhere in the declaration. The result is at right (we left out the foreground text to make the picture clearer). How did we do this trick? Compare the font size (60px) with the line height (40px). By setting the line height *smaller* than the font size, we made the two lines of text overlap. What would be unreadable in body text is positively artistic in a background display headline!

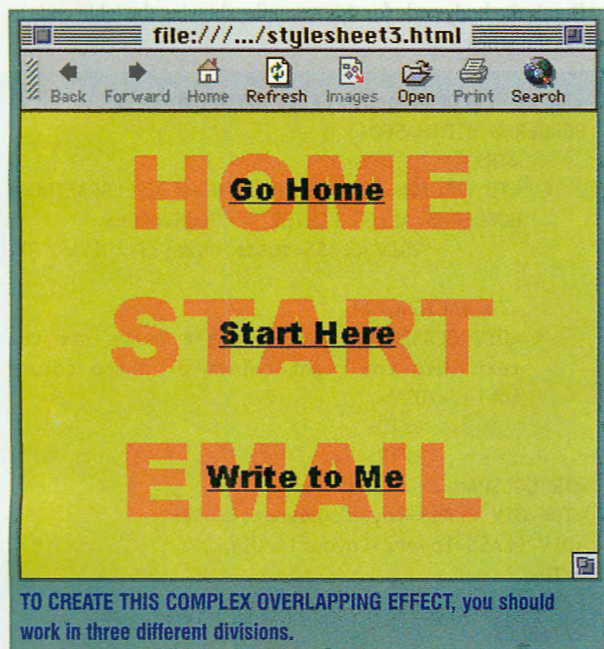


Triple Your Fun

At the beginning of this series on style sheets (Aug/97, p80), we showed you an example of overlapped text in three distinct sections. Don't even think about trying to figure out exactly how many pixels you need to move all that text on the page so that it overlaps just

right. Instead, work in three individual <DIV> divisions. That is, get one pair of overlapping text blocks working just how you like them, then repeat it as often as you like, creating distinct divisions on the page for each block.

Here's the HTML that was used in the body of the first example page. Each of the "heading1" classes in this example has its margin-top property set to -45px to bring it up over the background. Notice that each division essentially is identical to the previous one, except for the content and URL:



```
<BODY bgcolor=ffEE22>
<CENTER>

<DIV ALIGN=CENTER CLASS=heading>HOME</DIV>
<DIV ALIGN=CENTER CLASS=headingh1><a href="home.html">Go Home</a></DIV>

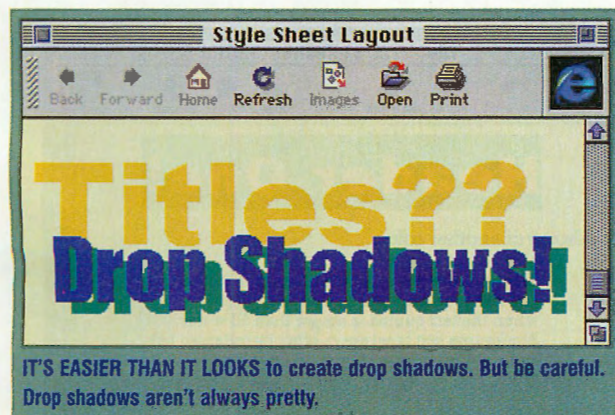
<DIV ALIGN=CENTER CLASS=heading>START</DIV>
<DIV ALIGN=CENTER CLASS=headingh1><a href="start.html"> Start Here</a></DIV>

<DIV ALIGN=CENTER CLASS=heading>EMAIL</DIV>
<DIV ALIGN=CENTER CLASS=headingh1><a href="email.html">Write to Me</a></DIV>
</CENTER>
</BODY>
```

Creating Drop Shadows

Another interesting, if ugly, use for overlapping text is to create a drop-shadow effect in a title. It's relatively simple. Just place two bits of identical text on top of each another, differing only their text color and

margins. The shadow text's color should probably be lighter than the foreground's, and the shadow's margin settings should be lower and farther to the right or left. Here's the HTML for the two styles, which we named "shadow," which is the shadow (duh!), and "foreground," which is the foreground (double duh!). The style definitions, as in all our examples, are placed inside the header of our HTML page:



```
.shadow {color: teal;
margin-top: -30;
margin-left: 20px;
font-size: 50px;
font-family: Impact, Arial, helvetica, sans-serif }

.foreground {color: navy;
margin-top: -68px;
margin-left: 10px;
font-size: 50px;
font-family: Impact, Arial, helvetica, sans-serif }
```


And here's how the classes are used in the body:

```
<DIV CLASS=mast>Titles??</DIV>
<DIV CLASS=shadow>Drop Shadows!</DIV>
<DIV CLASS=foreground>Drop Shadows!
</DIV>
```

This is precisely the same technique used to create our Backtext Words example, only this time we overlapped identical pairs of words and moved one of them only a slight bit relative to the other. As always, the only way to know exactly how much to move your margin-top and margin-right values is trial and error.

Our sincerest apologies for the icky color choices—you just aren't going to find the subtleties of true page layout in style sheets quite yet. And, as always, remember that many browsers are going to display something completely different from what you see when previewing in your style-sheet-capable browser. This screenshot

shows what the drop shadows we created look like to a visitor using Netscape Navigator 3.0.1. It's not unreadable, by any means, but it's also not exactly what we have in mind for visitors to see....

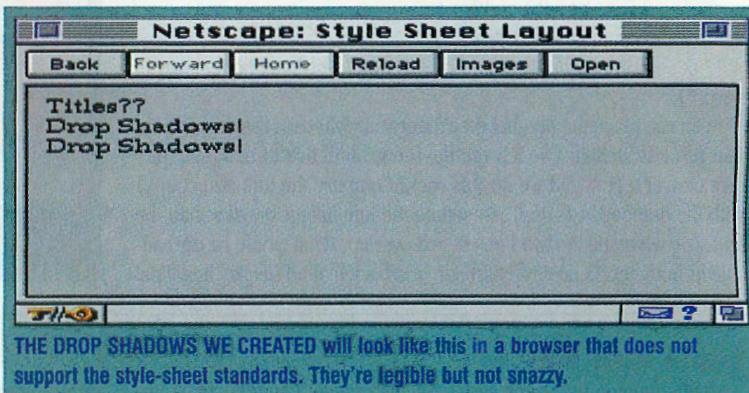
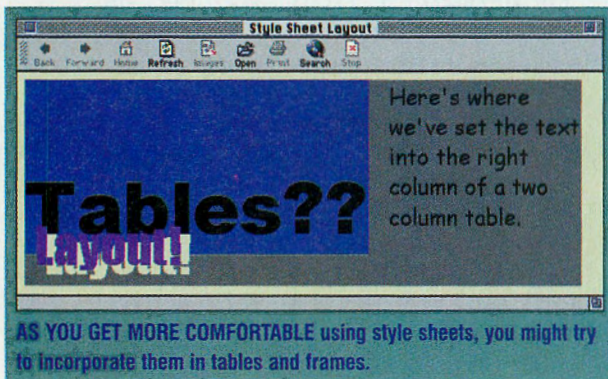


Table Hopping With HTML

As you bring style sheets into your everyday repertoire of HTML techniques, remember that you can incorporate any of these style experiments into your usual HTML formatting ideas—inside tables, for example, or inside frames. Below is an example that uses both style sheets and a typical table layout. The fonts all were colored with style sheets, and we assigned a background color to one of the table cells. Also, we set the table width to a specific number to prevent the visitor from changing the layout by shrinking or enlarging the browser window.



Here's the body code for this example, showing the table code as well as the styles:

```
<TABLE BGCOLOR=gray CELLPADDING=0 CELLSPACING=0
  BORDER=0 WIDTH=560>
  <TR>
    <TD VALIGN=TOP CELLPADDING=0 CELLSPACING=0
      BORDER=3 ALIGN=CENTER BGCOLOR=blue>
        <DIV CLASS=mast>Tables??</DIV></TD>

    <TD VALIGN=TOP>
      <DIV CLASS=text>Here's where we've set the
        text into the right column of a two column
        table.</DIV>
      </TD>
    </TR>
    <TR COLSPAN=2>
      <TD><DIV CLASS=layer1>Layout!</DIV>
      <DIV CLASS=layer2>Layout!</DIV>
      </TD>
    </TR>
  </TABLE>
```

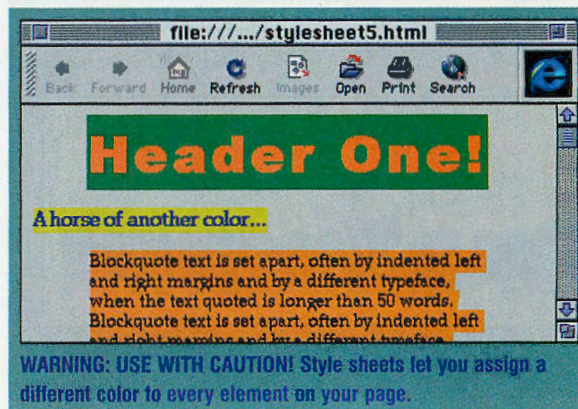
Too Ugly for Words

Here's one final stunt for your bag of tricks. We'll pass it along if you promise not to abuse it. Style-sheet standards allow you to set a background color to be associated with *any element, not just the page background*. Your headers, paragraphs, and divisions all can have their own background color. Using the property background-color, set the value to any valid style color. At right is a Web page in which the header, body, and blockquote styles all have different background colors. Don't say we didn't warn you!

Note that, for some reason, Microsoft Internet Explorer 3.0.1 would not properly display the background-color property. So I resorted to the property "background," which covers all background properties in a single command.

Now that you're armed with a wide array of tips for using style sheets, we encourage you to experiment. But be forewarned: We're not responsible if you create a really ugly page!

Joseph O. Holmes, aka Professor Web, would love to hear your tips and questions on this subject or any other Webmaster topic. Address your email to professorweb@pobox.com, but please remember, he can't personally reply to every message.



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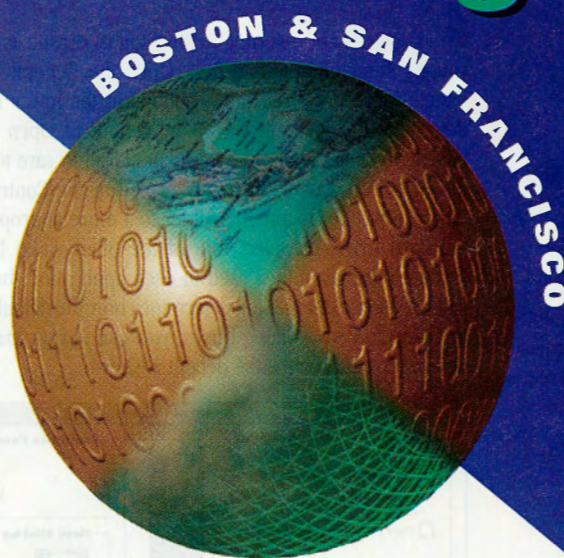
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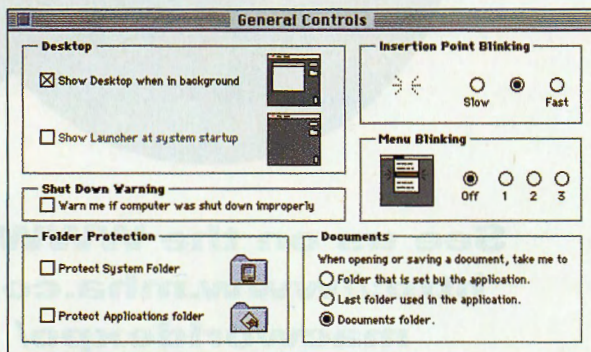
We answer your technical questions, no matter how simple or complex.

Q My father's Performa has decided that it must save everything to the Control Panels folder. I've tried just about everything I can think of besides reinstalling the Mac OS. Any suggestions?

A I suggest not resorting to anything as drastic as reinstalling until you try something simple first. Open the General Controls control panel. There are three radio buttons in the lower right corner that determine the location shown by default in Open and Save dialog boxes. My guess is that the Performa is set to save to the Documents folder, which was inadvertently placed in the Control Panels folder. Either move the Documents folder to a more appropriate location on the hard drive, or select one of the other radio buttons. I prefer saving to the last folder used in each application, but it's your dad's call. Of course, this setting determines only the default location shown in Open and Save dialog boxes; you can always manually choose a different location once the default is shown.



FIND THE SHAREWARE and freeware mentioned on The Disc.



THE RADIO BUTTON selected in the lower right corner of the General Controls control panel determines the default location used when opening or saving documents.

Q How can I send email with attachments to a friend who owns a Wintel clone?

A If you're sending a text file, open it with a word processor, copy the entire thing to the Clipboard, then paste it into your email message. Your friend can then read it in his email program. If the attachment is anything besides a text file, it must be in a file format your friend could open if you handed it to him on a PC disk. For example, if you're sending a graphics image in JPEG format, your friend needs a program that can open a JPEG file. So first you must agree on a file format that you can both generate and open on your respective systems.

Even though your friend was misinformed enough to buy a Wintel clone, you should be able to agree upon a common format without

resorting to strong-arm tactics. Having agreed upon a common format, the trick is picking a compression scheme. Most email programs compress attachments to reduce transmission times. If you both use the same cross-platform email program (such as America Online), it should be smart enough to figure out how to handle attachments automatically. Difficulties arise when you're sending from one email program and your friend is receiving with another. In that case, make sure you're using compatible compression schemes. When either of you receives a compressed attachment, it must be expanded before it can be opened.

The most common compression scheme on the Mac is the Stuffit archive (commonly indicated by the .sit file name suffix). In the Wintel world, the ZIP scheme rules. Pick a scheme that you both can compress and decompress. I recommend buying Aladdin Systems' Stuffit Deluxe, which handles everything you're likely to run across on the Web. Then tell your friends to download the appropriate free decompressing utility for Mac OS, Windows, or DOS at <http://www.aladdinsys.com/consumer/expander1.html>. Armed with good compression utilities on both sides, exchanging documents with PC users is easy. Just don't send attachments to Wintel users as self-expanding archives (indicated by the .sea suffix). Mac users may appreciate not needing a decompression utility, but Wintel users won't be able to run these miniprograms on their machines. If your email program doesn't allow sending attachments, you can get around this limitation by encoding the binary document into a long string of text using an algorithm such as BinHex, UUencode, or Base64. On the receiving end, if the email program doesn't automatically recognize encoded text as such, it'll look like a bunch of gibberish characters. Nothing went wrong with the transmission. The characters merely need to be saved as a text file and then decoded with the appropriate utility. Again, Stuffit Expander can handle this task.

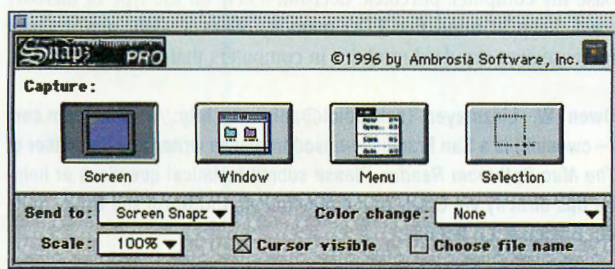
Q I have an external CD-ROM drive that correctly plays the sound from all my multimedia CD-ROMs, but I can't for the life of me figure out how to get audio CDs to play through the Mac's internal speaker. Can you help?

A Nope, but I can explain why this is so. External CD-ROM drives have two different connectors on the back: a set of SCSI connectors and a pair of RCA output jacks (left and right audio channels). Multimedia CD-ROMs transfer their audio to the Mac's internal speaker over the SCSI bus as digital data. Audio CDs pump their music out the RCA jacks as analog signals. If you want to listen to audio CDs with an external CD-ROM drive, you need to route the analog audio to a set of external powered speakers or a stereo system. Or you can plug headphones into the jack on the front of most CD-ROM drives. But there's no simple way to send this analog audio to the Mac's internal speaker unless your Mac has AV inputs (different from the microphone jack), in which case you

can connect patch cables between the RCA jacks on the back of the drive and your Mac. Internal CD-ROM drives have a separate audio cable that goes to the Mac's logic board so they have no trouble playing audio CDs through the Mac's internal speaker.

Q How can I take a snapshot of my Mac's screen if I want to include a menu that's pulled down? I tried pressing Command-Shift-3, but it doesn't take a picture until the menu closes.

A Built into every Mac is the ability to capture the main screen by pressing Command-Shift-3. If you hear the sound of a camera shutter clicking, all went well. Double-click your startup volume's icon and look for the PICT file labeled Picture 1, Picture 2, and so on. This file can be opened with SimpleText or any graphics program. But as you've discovered, this routine is rather limited because it can't capture open menus, and it always includes the cursor in the image, which is sometimes undesirable. With the introduction of Mac OS 7.6, Apple added a few useful screen capture options. Press Command-Shift-4, and the cursor changes into a crosshair, which you can drag to specify a rectangular area, such as a dialog box, that



A SINGLE KEYSTROKE brings up the Snapz Pro palette, which allows you to capture, trim, crop, scale, and dither any portion of your screen in the blink of an eye.

you'd like to capture. If you have multiple monitors, press Command-Shift-4-Caps Lock, and the cursor becomes a bull's-eye that you can click on the screen you want to capture. Hold down the Control key in addition to any of these combinations, and the image is placed on the Clipboard instead of saved as a PICT image. As nice as these new features are, they still can't capture a menu when it's pulled down. Shareware to the rescue! Ambrosia Software (716-325-1910, <http://www.ambrosiasw.com>) makes a great little utility called Snapz Pro that takes screenshots of just about anything, anywhere, at any time.

Q I have a Performa 6400/180, which is supposed to have a 1.6GB hard drive. I recently noticed that it had only 210MB of free space, so I deleted a lot of things I didn't need, freeing up an additional 643MB. The problem is that when I look at the top of my hard drive's window in the Finder, it reports the disk size as only 769.7MB, not 1.6GB. How do I fix this?

A Easy there, big guy; there's nothing wrong with your hard drive, just with your thinking. Your Mac has a 1.6GB hard drive installed, and you have 853MB available. If you choose one of the icon selections from the Finder's View menu (or select the "Show disk info in headers" checkbox in the Views control panel), the headers display the number of items visible in the window, the amount of disk space they consume, and the amount of disk space available. You're misinterpreting the

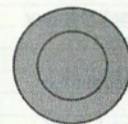
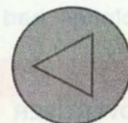
Calvin		
67 items	1.5 GB in disk	665.3 MB available
Name	Size	
lomega Tools	-	
Kensington	-	
MacLinkPlus	-	

THE INFO SHOWN in window headers can be confusing if you don't know to add the "in disk" and "available" amounts to determine disk size.

"769.7MB in disk" to mean the size of your drive. Add this number to the 853MB available, and you'll see that, in fact, your hard drive has a total capacity of 1.6GB. If you don't believe me, launch Apple System Profiler (it should be in your Apple Extras folder), and choose Device Information from the Select menu. All devices on the first bus appear in the window on the left. Select the hard drive, and check that its capacity is indeed 1.6GB.

Q I've noticed that some Macs have two small buttons on them. One button has a triangle on it, and the other has a small dot. What do these buttons do?

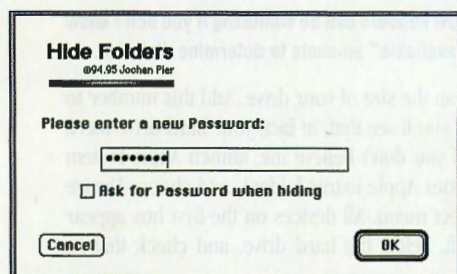
A These are the Reset and Interrupt switches, respectively. Pressing the Reset switch restarts the Mac, whereas pressing the Interrupt switch opens a minidebugger (or MacsBug, available at <http://www.download.com> or on The Disc). Not every Mac has these switches. If you can't find little buttons with the triangle and dot icons, either someone neglected to install the plastic doodad (don't ask me where you can get these; I don't know if they're even still available anywhere) necessary for your older Mac, or your Mac doesn't have hard Reset and Interrupt switches. However, virtually every Mac can simulate the function of these switches via the keyboard. Press Command-Control and the power key on your keyboard (not the power button on the Mac) to mimic the Reset button, or press Command-power for the Interrupt function. OK, that explains what these keys are and how to use them, but not why. If your Mac crashes and force-quitting (Command-Option-Esc) doesn't allow you to save open documents, pressing Reset may at least allow you to avoid flipping the power switch or pulling the plug on your Mac. You'll lose any changes made to open documents, but the contents of your RAM disk (if any) will be saved. The Interrupt switch mainly is for programmers, not everyday schmoes like you and me. However, if your Mac crashes, press the Interrupt switch, and enter G FINDER, followed by Return, and you may be safely taken to the Finder. If it works, save all open documents, and choose Shut Down from the Special menu. If it doesn't work, hit Reset instead.



Q How do I keep my father from rummaging through my files? I tried locking my files in the Get Info window, but if my dad tries opening a locked file, the Finder just says it's locked and then opens the file anyway. Hey man, what gives? What's a girl to do to get some privacy?

A I'm not about to inquire as to the types of secrets a daughter wants to keep from dear old dad, but I will tell you how to keep pop's prying peepers out of your private stuff. The Locked checkbox in the Get

Info window simply prevents someone from accidentally making changes to, or deleting, a file. It has nothing to do with preventing a file from being opened. If that's the kind of protection you seek, I suggest you check out Jochen Pier's shareware program Hide Folders. Just drag and drop your sensitive files or folders onto this application, and a dialog box asks for a password. Enter it twice for safety's sake, and the file or folder is replaced in the Finder with a new icon bearing whatever name you want. If you double-click this icon, an



THE SHAREWARE HIDE FOLDERS offers simple security by making files and folders invisible.

alert box requests your password. Enter the correct password, and your hidden file or folder magically reappears; enter the wrong password, and you're denied access. If dad's a hacker for an ultrasecret government agency, or if he knows how to toggle a file's invisibility bit,

it's likely he can crack his way into your hidden files, but otherwise you can consider your secret stuff relatively secure.

Q I was on the verge of ordering a PowerBase 240 when a friend said that Power Computing machines were worthless and that I would be better off with something from UMAX. Of course, I immediately consulted MacAddict and found that Power Computing clones had received favorable reviews. My cynical

friend claims that Power Computing clones use memory modules that are difficult to find and expensive. Is my friend full of beans?

A Your friend is so full of frijoles he could be a burrito. Power Computing's clones (800-999-7279 or 512-388-6868, <http://www.powercc.com>) have received high marks from the computer press and consumers alike. For that matter, so have UMAX Computer's SuperMacs (800-232-8629 or 510-226-6886, <http://www.supermac.com>). A few quick calls to several memory merchants was all it took to find that the PowerBase 240 uses 60-nanosecond (ns), 5-volt, 168-pin, EDO (extended data out) modules. In contrast, the SuperMac C600/240 is a similar machine that uses 70ns, 168-pin, standard FPM (fast-paged mode) modules. These two types of modules were available from every vendor I contacted, and prices were never more than \$10 apart for a 16MB module, and in some cases, EDO modules were actually cheaper. Although I would never base my computer purchase decision solely on the type of memory used, keep in mind that EDO memory offers a slight performance increase over standard modules in computers that accept both types.

Owen W. Linzmayer (askaddict@aol.com; <http://www.netcom.com/~owenink>) is a San Francisco-based freelance writer and the author of *The Mac Bathroom Reader*. Please submit technical questions or helpful tips directly via email or c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

Hot Tip:

Yo ho ho and a bottle of rum! Hold down the Shift key while double-clicking inside a QuickTime movie frame to play the movie backward, including the soundtrack.

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powerplay

Why people spread rumors that Apple is abandoning the consumer market.

Holiday Fun

There will be all kinds of goodies for Mac gamers this year. Most everybody will want *Riven*, the sequel to *Myst*, and we'd love to show you screenshots and the like, but *Red Orb*—Brøderbund's new consumer entertainment division—didn't bother to make its press kit cross-platform. As if *Myst* weren't written in HyperCard in the first place! Sheesh.

Working behind enemy lines is Atomic Games, hard at work on *Close*

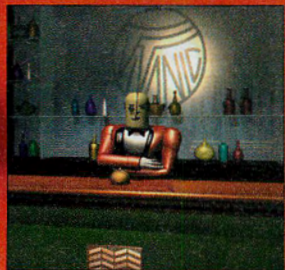
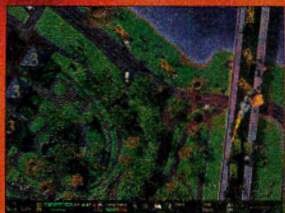
Combat 2: A Bridge Too Far. This killer sequel adds a bunch of nice touches: Buildings have more

than one level, you can zoom in to a view, and you can set up all your combat maneuvers at once, rather than having to deal with them all in real time. One sacrifice Atomic did make, however, was small screens: You'll need a 17-inch monitor.

Sure to be a barrel of laughs, *Starship Titanic* is an adventure created by Douglas Adams. Adams has

endeavored with *Titanic* to put more of the fluid gameplay of a text adventure into a graphical adventure. This is good

news because many graphical adventures have extremely linear gameplay due to the constraints of the medium. Adams isn't alone in his pursuit—last year's *Bad Mojo* and the new *RedJack: Revenge of the Brethren* also expand the static graphical adventure.



For the third annual Electronic Entertainment Expo (E3), the games industry transplanted itself from the Silicon Valley and Hollywood into the heart of the South: Atlanta. Although it wasn't as big as last year's blowout in Los Angeles—attendance was down 35 percent—E3 proved it's a worthy successor to the Consumer Electronics Show (CES).

Picture a three-ring circus. Add 447 more rings and you get a sense of what E3 is all about. In the center ring you find the three main console game vendors: Sega, Sony, and Nintendo. Each of these companies had a huge, huge booth—the size of about 10 basketball courts crammed together. Filling these booths were dozens of stations showing off this year's holiday titles. Surrounding them and spilling out into every imaginable nook and cranny of the World Congress Center and the Georgia Dome were every game, multimedia, children's software, and development tools vendor you could possibly imagine. All tried to outdo each other in grabbing attention for their titles.

Amid the racing cars, hairy-chested barbarians, and autograph seekers hounding Terry Bradshaw and Wayne Gretzky were a few products for the Macintosh. The coolest was TechWorks' Power3D, a 3D accelerator card for the Mac based on 3Dfx Interactive's Voodoo technology. This card screams. TechWorks reports benchmarks of 1 million triangles per second and 45 Mpixels per second. Benchmarks like these are hard to comprehend (can you imagine a million things at once?), but in this editor's subjective opinion, the Power3D feels faster than ATI Technologies' Xclaim VR card (we'll give you more accurate assessments in an upcoming review). It gets more performance by taking shortcuts, such as not including a 2D chip.

What that means is that you can't simply plug your monitor into the card and have it display your Mac desktop. The card displays only 3D graphics. To get such niceties as menus and dialog boxes, you have to plug the monitor cord into the card and use a pass-through cable to plug it into

your standard monitor port, too. When displaying dialogs, for instance, the card fades out the 3D graphics and fades into your Mac's video port, then back again when the dialog is dismissed. ATI is not just standing still with this new competition in the Mac 3D market—the company will be upgrading its Rage II chip to the Rage Pro later this year—and remember, the Power3D doesn't have the other fancy features, such as QuickTime capture and accelerated playback, of the ATI card.

A 3D card isn't worth very much without games to play on it. Both ATI and TechWorks have been dedicated in working with vendors to make games run on their cards. We were not wowed by the card so much as the games running on it. MacSoft's *Quake* was oh, so smooth.

**We
Mac addicts will
drool over whatever
the gods at Bungie
create.**

Also readying its latest game was Bungie Software Products. Nine out of nine machines displaying *Myth: The Fallen Lords* at Bungie's booth were PCs. Bungie did show off *Myth*'s development tools on a Mac in the back of the booth to those who were interested. Well, you gotta do what you gotta do, and the truth is, we Mac addicts will drool over whatever the gods at Bungie create, because we know they produce quality products. The PC world has long viewed Bungie as "those Doom wannabe Mac heads." From what we could see, Bungie shed this perception at E3, and PC users had as much drool on their lips as we did—and it certainly wasn't just foam from Surly Dwarf Ale.

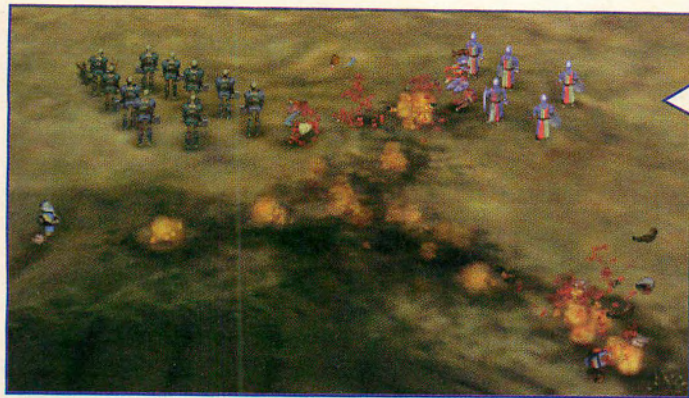
One booth we didn't get a chance to visit was Apple's. We couldn't take a look at it because it didn't exist. Bing Gordon, executive vice president of marketing at Electronic Arts, though not talking about Apple directly in an interview with Miller

Freeman's *Game Developer* magazine, nevertheless conveyed why it is important for hardware vendors to come to E3:

"The most valuable feedback we get at E3 is not about software titles at all, but about hardware prospects. The "buzz" in each hardware booth defines retail and software community support for the rest of the year. Since most of our titles are on a 12- to 15-month cycle for



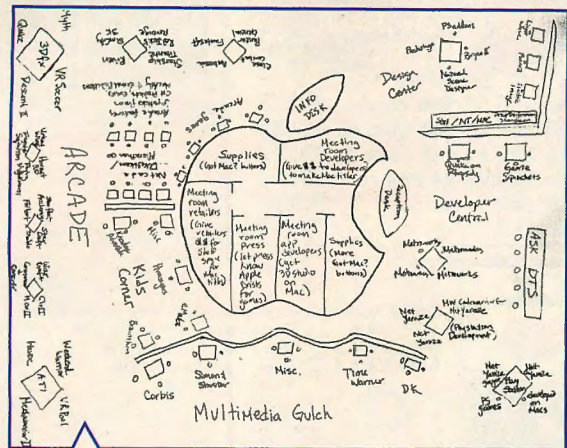
**FIND A BIG
QUICKTIME
preview of
Myth on
The Disc.**



"THE BLOOD IS MORE FLUID," quipped Bungie propagandist Doug Zartman on playing Myth on a 3Dfx card.



games



WITH MINIMAL SPACE, Apple could have shown that it's a player in game design, development, and sales. This is the Apple booth we wish we had seen at E3—but didn't.

CAN YOU PICTURE an Apple exec in this get-up? Neither can we. But Intel CEO Andy Grove understands the importance of "fun."



fall release, we will use this E3 to prioritize our hardware support for Christmas 1998."

The hardware offerings at E3 consisted of those from Nintendo, Sony, Sega, Microsoft/Intel, and Bandai. No, our favorite fruit company couldn't be bothered to buy a booth at the biggest entertainment software trade show of the year.

Apple representatives met with major Mac game publishers at Macworld Expo in San Francisco last January. These reps asked the publishers which trade shows Apple should attend to show its support for games. They were told, "CGDC (Computer Game Developer Conference) and E3." Apple did not show up at either one. Granted, Apple is losing money, and needs to pick and choose the shows that will benefit it the most. We can understand skipping the CGDC, but missing E3 was the absolute stupidest thing Apple could do for the consumer market—because CES is no longer in existence, E3 is the only place to strut your consumer stuff.

Executives like Bing Gordon aren't going to get a "buzz" about the Mac as a game platform because there were no Macs to get excited about. What they saw was Intel CEO Andy Grove dressed up in an MMX dancer suit boogieing down during his keynote speech and proving that Intel puts the "fun" in PCs. They saw Microsoft's booth rivaling the size of Nintendo's, Sony's, and Sega's. They saw Microsoft on hotel room phone speed-dial and key cards, for goodness' sake. That's right—

an operating system only two years old—Windows 95—has gained more gamer mind-share than a multimedia veteran. Apple didn't need to blanket the expo with marketing, as Microsoft did, but it could at least have shown up.

E3 isn't just about games. Children's software and multimedia title vendors come to show their wares, too. Apple's absence sent the message to developers that they don't need to worry about spending their precious time and money creating educational titles, interactive storybooks, historical CD-ROMs, and, yes, games, for the Mac this year because Apple couldn't possibly care less about whether they exist.

While we are down on Apple's lack of support for the consumer market, we are definitely up on Mac games. There are more great games that will be sold this year than we can count using both fingers and toes. There are rays of hope inside the mothership. The Power Mac 6500 team put a 3D accelerator chip on the motherboard and bundled four 3D games with it—and that model is selling like hot cakes. The reality that games are important to the consumer market is beginning to trickle up Apple's management hierarchy. Now, if only some sense could be beat into the people with power—the members of Apple's executive committee who've told us to use a compatibility card or Connectix Virtual PC to play games on our Macs. Maybe, just maybe, Apple's board will hire a CEO who has played Marathon. —Kathy Tafel

ALSO SHOWING ITS WARES was Swiss developer Virtually Unlimited, which licenses 3D code to developers so they don't have to bother their pretty heads with all that math. These libraries are cross-platform, and they take advantage of RAVE or write directly to the 3Dfx card. Check them out at <http://www.virtually3d.com>.



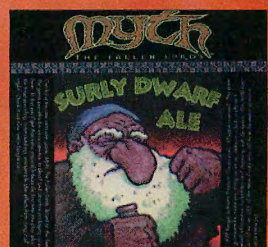
Tchotchke Watch

One of the ways companies at E3 try to influence your opinion is with tchotchkes—trinkets sporting the product logo, or some other kind of tie-in.

CyberFlix tied for best tchotchke. In addition to the squid squirt gun included in the standard press kit, "special" people got voodoo dolls (probably anybody who braved the long trek to CUC Software's off-site booth). These tchotchkes were promoting its new game, RedJack: Revenge of the Brethren. We didn't need the squid to see that this will be a great adventure. Based on the fifth generation of CyberFlix DreamFactory technology, the new engine lets you view 360 degrees, adds ambient sound (you can tell where the bar is, for instance, by the noise coming out of it), and greatly enhances interactions with characters. RedJack should be a suitably spooky game.



Bungie Software Products, in addition to the arrow sent our way, gave away 12 ounces of ale "guaranteed to make you strong as an ox, sharp as a tack, crafty as a weasel, eloquent as a charlatan and charming with the ladies."



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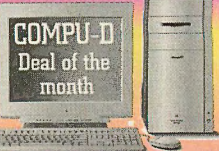
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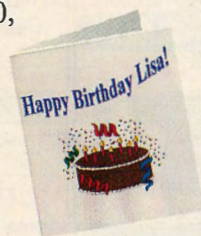
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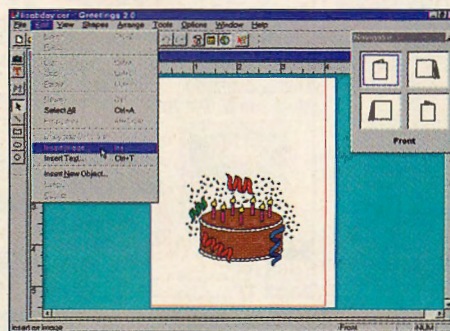
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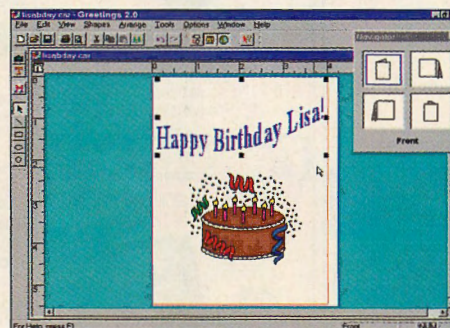
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Apple 20" Vision	\$1399
Sony 1005SF/100SX 15"	\$379/349
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Radius Pressview SR 21"	\$2899
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4.3GBStratus	QM34320STS	10ms	Ultra SCSI-3	5400	\$399	\$449
4.5GBAtlas II	QM34550ALS	8ms	Ultra SCSI-3	7200	\$729	\$779
4.5GBAtlas II	QM34550ALW	8ms	UltraWide SCSI-3	7200	\$799	\$879
6.4GBStratus	QM36480STS	10ms	Ultra SCSI-3	5400	\$499	\$549
9.1GBAtlas II	QM39100ALS	8ms	Ultra SCSI-3	7200	\$1199	\$1249
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4.3GB Barracuda 4LP	ST34371W	8.5ms	UltraWide SCSI-3	7200	\$849	\$929
4.3GB Cheetah	ST34501N	8ms	Ultra SCSI-3	10000	\$929	\$979
4.3GB Cheetah	ST34501W	8ms	UltraWide SCSI-3	10000	\$999	\$1079
9.1GB Barracuda 9	ST19171N	8ms	Ultra SCSI-3	7200	\$1399	\$1449
9.1GB Barracuda 9	ST19171W	8ms	UltraWide SCSI-3	7200	\$1419	\$1499
23GB Elite 23	ST423451N	8ms	Fast SCSI-2	5400	\$2899	\$2999
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TOSHIBA

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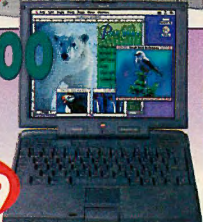
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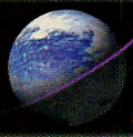
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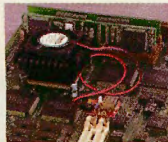
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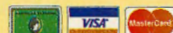


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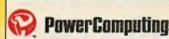
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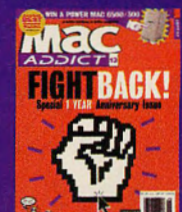
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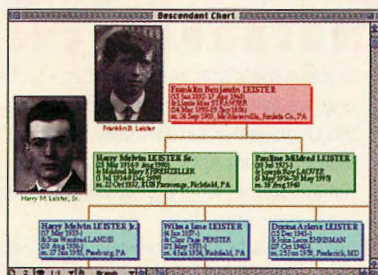
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Pretty in Pink

"Designers are finally sitting down and trying to understand what girls want. They can't just frilly up the characters and sell them in a pink box," said New York video game analyst Sean McGowan on the influx of this fall's girls-only programs, which include Talk With Me Barbie, Barbie's Magic Hair Styler, Cosmopolitan Virtual Makeover, and Wig Out. Hmmm, if these glamour games don't get girls interested in using computers, we can't imagine what would.

BUGGING OUT

Disk Charmer, a disk-formatting shareware utility by Fabrizio Oddone, humbly offers up this opinion on Apple Menu Options:

Grand Delusions

"I know that I've rescued this company."
—former Apple CEO Gillet Amelio in an exclusive interview with the *San Jose Mercury News*, one week before Apple announced a \$56 million loss.



Apple Menu Options is installed; every version, even the one in System 7.5 Update 2.0 (a.k.a. System 7.5.3), is plagued with nasty bugs. Consider using another utility instead.

OK, Don't Show Again

OK

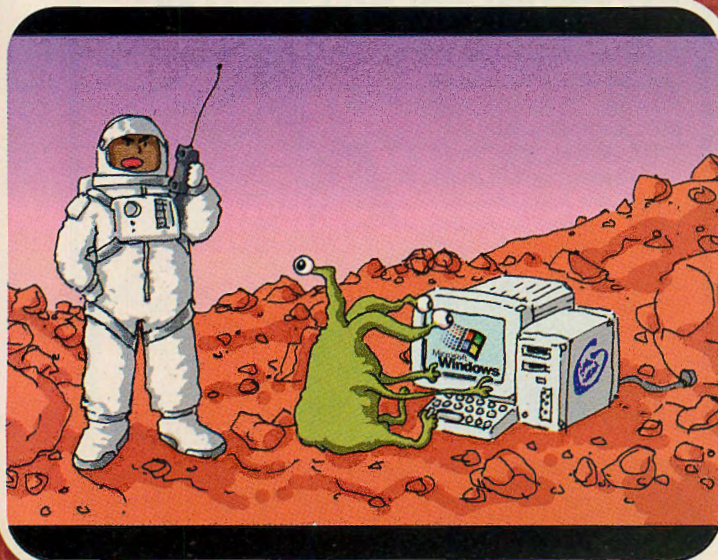
BUYING TIME

"The Monopoly Clock (<http://www.vcnet.com/bms/msw/clock.html>) tracks the countdown to the final and complete monopolization of the technology and communications industries by Microsoft, and the midnight hour of consumer choice." —The Monopoly Clock. And to think that we used to complain about daylight saving time.

ASK AGAIN LATER

"We're out of the business of predicting when this company will return to profitability," stated Apple's chief financial officer, Fred Anderson, in a public announcement to the press, held only moments after a halt was called to the hours-long search that failed to locate the company's official Magic 8 Ball.

**YES, THERE IS LIFE ON MARS...
BUT IT DOESN'T APPEAR TO BE INTELLIGENT.**



Doodle by Mark Simmons

The Naked Truth

"What is significant is that 60-year-old women can keep up with the younger guys," Vint Cerf, the senior vice president of Internet architecture and engineering for MCI, commented in a July 3, 1997, *New York Times* article on a test showing that older women could navigate the Web better than young men could. We're just relieved that there's finally an explanation for the huge increase in downloads of Paul Newman nude pics—Sandra Bullock was starting to get jealous.

You Don't Say

"I think the Macintosh is going to continue to be very, very, important in the educational environment for a long, long period of time." —Microsoft Chairman Bill Gates speaking to a crowd of about 5,000 educators at the National Educational Computing Conference in Seattle last June.

According to unidentified sources, when the real Bill Gates discovered what his non-evil twin had done, he was really, really mad.

MacAddict Corrections

- ★ In last issue's annual list of What's Hot and What's Shot in technology, we failed to mention: the Nintendo 64, Tamagotchi, Firewire, the Unabomber, virtual reality, raves, the Information Superhighway, Vice President Al Gore, Gino's pizza rolls, browser wars, carpal tunnel syndrome, Cheryl England, and mouse accessories. We regret these omissions.
- ★ Last issue's feature story on clip art was really boring. We apologize.
- ★ Last month's Disc should have featured an exclusive interview with Steve Jobs discussing his role as an adviser at Apple and Gillet Amelio's secret last days, but once again, we forgot to call him. Oh well.
- ★ In several of last month's photo illustrations we featured Macintosh computers when we meant to show you Isaac Mizrahi's fall fashion lineup. Again, we apologize for the mix-up.
- ★ An article in last issue's Get Info section referred to intranets as the "next big thing." We were recently informed that no one cares. Sorry.

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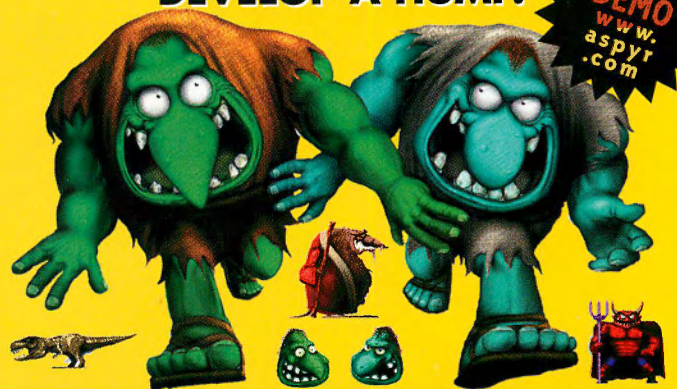


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